LBT-A390

SERVICE MANUAL

AEP Model
E Model
Australian Model

- LBT-A390 is composed of following models.
  As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR THESE SYSTEM

	LBT-A390				
	AEP	G	E2	E3	AUS
STEREO DECK RECEIVER	HCD-A390				
TURN TABLE	PX-LX56P				
SPEAKER SYSTEM			SS-D390		

G : GERMANY
AUS : AUSTRALIA
E2 : CENTRAL AND SOUTH AMERICA
E3 : CHILI, PERU, BOLIVIA, ARGENTINA

PARTS LIST

	Part No.	Description
	1-501-374-11	ANTENNA , LOOP
	1-501-536-11	ANTENNA (AEP)
	1-501-659-31	ANTENNA(FM) (Except AEP,G)
	3-758-164-11	MANUAL, INSTRUCTION (AEP) (ENGLISH , FRENCH , SPANISH , PORTUGUESE)
	3-758-164-41	MANUAL, INSTRUCTION (AEP,G) (GERMAN , DUTCH , SWEDISH , ITALIAN)
	3-758-164-51	MANUAL, INSTRUCTION (AEP) (DANISH , FINNISH)
	3-758-165-11	MANUAL, INSTRUCTION (AUS,E) (ENGLISH , FRENCH , SPANISH , CHINESE)
*	4-963-198-01	INDIVIDUAL CARTON(AEP,G)
*	4-965-395-01	INDIVIDUAL CARTON(E2)
*	4-965-396-01	INDIVIDUAL CARTON(E3)
*	4-965-397-01	INDIVIDUAL CARTON(AUS)

	Part No.	Description
	A-4674-087-A	TURN TABLE MAT ASSY(PS-LX56P)
	1-467-491-11	COMMANDER , STANDARD (RM-S321)(HCD)
	2-181-754-21	COVER(MLY), BATTERY(RM-S321)
*	3-376-136-01	CUSHION(CASSETTE HALF)(HCD)
*	4-947-532-01	SNOW BOX (L)(PS-LX56P)
*	4-947-533-11	SNOW BOX (R)(PS-LX56P)
*	4-963-204-01	CUSHION(HCD)
*	4-963-202-01	SPACER(A)
*	4-963-203-01	SPACER(B)
*	4-957-893-11	CUSHION(SS-D390)

NOTE :
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

COMPACT HI-FI STEREO SYSTEM

SONY®

MICROFILM

9-959-362-11

Sony Corporation
Audio Group

English
94B0470-1D
Printed in Japan
© 1994.2
Published by Audio Sector Quality Assurance Dept.

HCD-A390

SERVICE MANUAL

AEP Model
E Model
Australian Model

HCD-A390 is the tuner, deck, CD and amplifier section in LBT-A390 respectively.

CD Section	Model Name Using Similar Mechanism		HCD-A290
	CD Mechanism Name		CDM14-5BD13
	Base Unit Name		BU-5BD13
DECK Section	Model Name Using Similar Mechanism		HCD-H650/H650M
	Tape Transport Mechanism Type	Deck A	TCM-190RA12AL
		Deck B	TCM-190RB53A

SPECIFICATIONS

Tuner

System	FM stereo FM/AM superheterodyne tuner
FM tuner section	
Tuning range	87.5 to 108MHz
Antenna	300 ohms balanced 75 ohms unbalanced
Intermediate frequency	10.7MHz
AM tuner section	
Tuning range	MW: 531 to 1,602kHz LW: 153 to 279kHz (AEP, EE)
Antenna	AM loop antenna External antenna terminal
Intermediate frequency	450kHz

Amplifier

DIN power output	40W+40W (6 ohms, at 1kHz)
Continuous RMS power output	45W+45W (6 ohms, at 1kHz, 5% THD)
Music power output	70W+70W (6 ohms)

Input	Jack type	Sensitivity	Impedance
PHONO	Phono	3 mV	47 kilohms
VIDEO	Phono	300 mV	47 kilohms

Output	Jack type	Impedance
SURROUND SPEAKER	Phono	Accepts speakers of 16 ohms
HEADPHONES	Stereophone	Accepts headphones of 8 ohms or more

Frequency response	15Hz to 50kHz $^{+0}_{-3}$ dB

Cassette deck

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF With Type II cassette (Sony UX-S) 40Hz to 14kHz (±3dB) With Type I cassette (Sony HF-S) 40Hz to 13kHz (±3dB)
Wow and flutter	W. PEAK±0.2% (DIN)

—continued on next page—

MICROFILM

COMPACT DISC DECK RECEIVER

SONY®

Compact disc player

Laser	Semiconductor laser
Wavelength	780—790nm
Laser output	Max. 44.6μW* * This output is the value measured at a distance of about 200mm from the objective lens surface on the Optical Pick-up Block.
Frequency response	2Hz to 20kHz±0.5dB
Signal-to-noise ratio	More than 93dB
Dynamic range	More than 90dB
Harmonic distortion	Less than 0.008% (1kHz)
Channel separation	More than 90dB (1kHz)

General

Power requirements	220—230V AC, 50/60Hz (AEP, EE) 110—120V/220—240V AC, 50/60Hz (E) 240V AC, 50/60Hz (AUS)
Power consumption	130W (AEP, EE) 140W (E, AUS)
Mass	Approx. 9.3kg (20 lb 8 oz)
Dimensions	Approx. 355×380×355mm (14×15×14 inches) (w/h/d, including projections)

Supplied accessories

Remote commander RM-S321	(1)
Batteries Sony SUM-3 (NS)	(2)
FM wire antenna	(1) (AEP3, E, AUS)
AM loop antenna	(1) (AEP3, E, AUS)
45-rpm adaptor	(1) (AEP3, E2 : Supplied with the turntable)

Design and specifications are subject to change without notice.

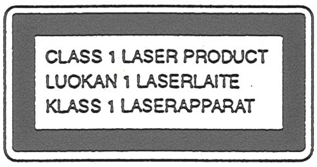
- Abbreviations

EE	East European model
AUS	Australian model
AEP3	AEP unit with PHONO POWER SOURCE (Made in Indonesia)
E2	AC 120V Area model

SAFETY-RELATED COMPONENT WARNING!!

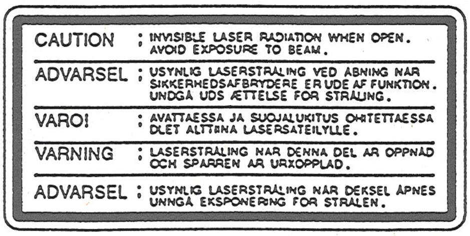
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.


CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

The following caution label is located inside the unit.



CAUTION	: INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL	: USYNLIG LASERSTRALING VED ABNING NAR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGA UDSÆTTELSE FOR STRALING.
VARO!	: AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSATEILYLLE.
VARNING	: LASERSTRALING NAR DENNA DEL AR OPPNAD OCH SPARREN AR URXOPPLAD.
ADVARSEL	: USYNLIG LASERSTRALING NAR DEKSEL APNES UNNGA EKSPONERING FOR STRALEN.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

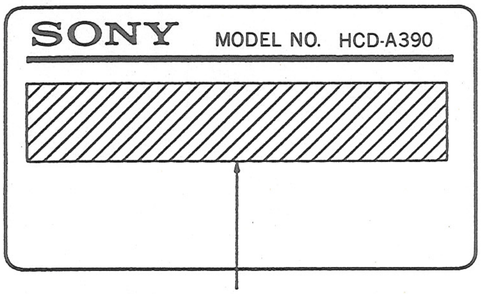
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

MODEL IDENTIFICATION

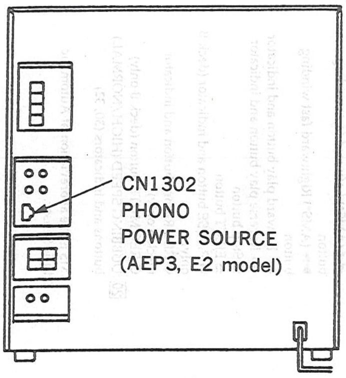
—Label Model Number—



AEP, EE model : COMPACT DISC DECK RECEIVER
AC: 220—230V~50/60Hz 130W
E model : COMPACT DISC DECK RECEIVER
AC: 110—120V/220—240V~50/60Hz 140W
AUS model : COMPACT DISC DECK RECEIVER
AC: 240V~50/60Hz 140W

- Abbreviations

EE : East European model
AUS : Australian model
AEP3: AEP unit with PHONO POWER SOURCE (Made in Indonesia)
E2 : AC 120V Area model



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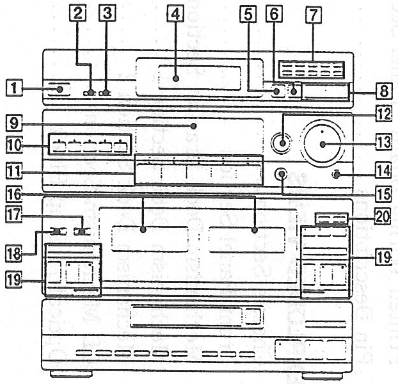
SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of Controls

Refer to the pages indicated in parentheses for details.



Tuner

- 1 SYSTEM POWER switch (12)
- 2 MEMORY button (18)
- 3 STEREO/MONO button (16)
- 4 Display window
- 5 BAND button (16)
- 6 SHIFT button (18)
- 7 PRESET STATIONS numeric buttons (18)
- 8 DUAL MODE TUNING +/– buttons (16, 18)

Amplifier

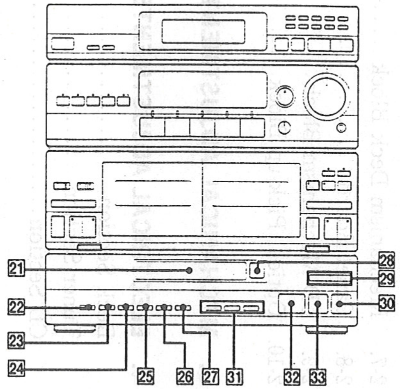
- 9 SPECTRUM ANALIZER display (14)
- 10 PRESET EQUALIZER buttons and indicators (14)
- 11 Function selectors and indicators
- 12 DBFB (dynamic bass feedback) control (14)
- 13 VOLUME control (14)
- 14 HEADPHONES jack (14)
- 15 SURROUND control (14)

Cassette Deck

- 16 Cassette holders
- 17 DIRECTION MODE selector (20, 22, 26, 30)
- 18 DOLBY NR (noise reduction) switch (20, 26)
- 19 Tape operation buttons (20, 26, 28)
  - ◀◀ (AMS*) Leftward fast winding button
  - ▶▶ (AMS*) Rightward fast winding button
  - ▶ Forward play button and indicator
  - ◀ Reverse play button and indicator
  - ■ Stop button
  - ⏏ EJECT button
  - ❚❚ PAUSE button and indicator (deck B only)
  - ● REC Record button and indicator (deck B only)
  - ○ REC MUTE button (deck B only)
- 20 DUBBING SPEED (HIGH/NORMAL) buttons and indicators (30, 32)

* AMS is the abbreviation of Automatic Music Sensor.

Location of Controls



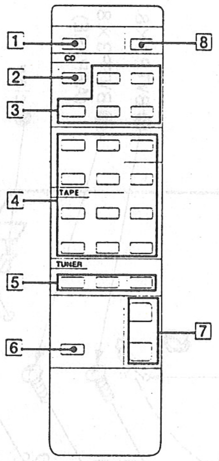
Compact Disc Player

- 21 Disc Tray
- 22 TIME button (36)
- 23 REPEAT button (50)
- 24 MUSIC SCAN button (48)
- 25 CHECK (program check) button (44)
- 26 CLEAR (program clear) button (44)
- 27 EDIT button (52)
- 28 ⏏ OPEN/CLOSE button (34)
- 29 ⏮ ◀◀/▶▶ ⏭ (AMS*) buttons (38)
- 30 ■ (stop) button (34)
- 31 PLAY MODE buttons
  - CONTINUE button (40, 44, 54)
  - SHUFFLE button (40)
  - PROGRAM button (42, 46)
- 32 ▶ (play) button and indicator (34)
- 33 ❚❚ (pause) button and indicator (34)

* AMS is the abbreviation of Automatic Music Sensor.

Location of Controls

Remote Commander RM-S321



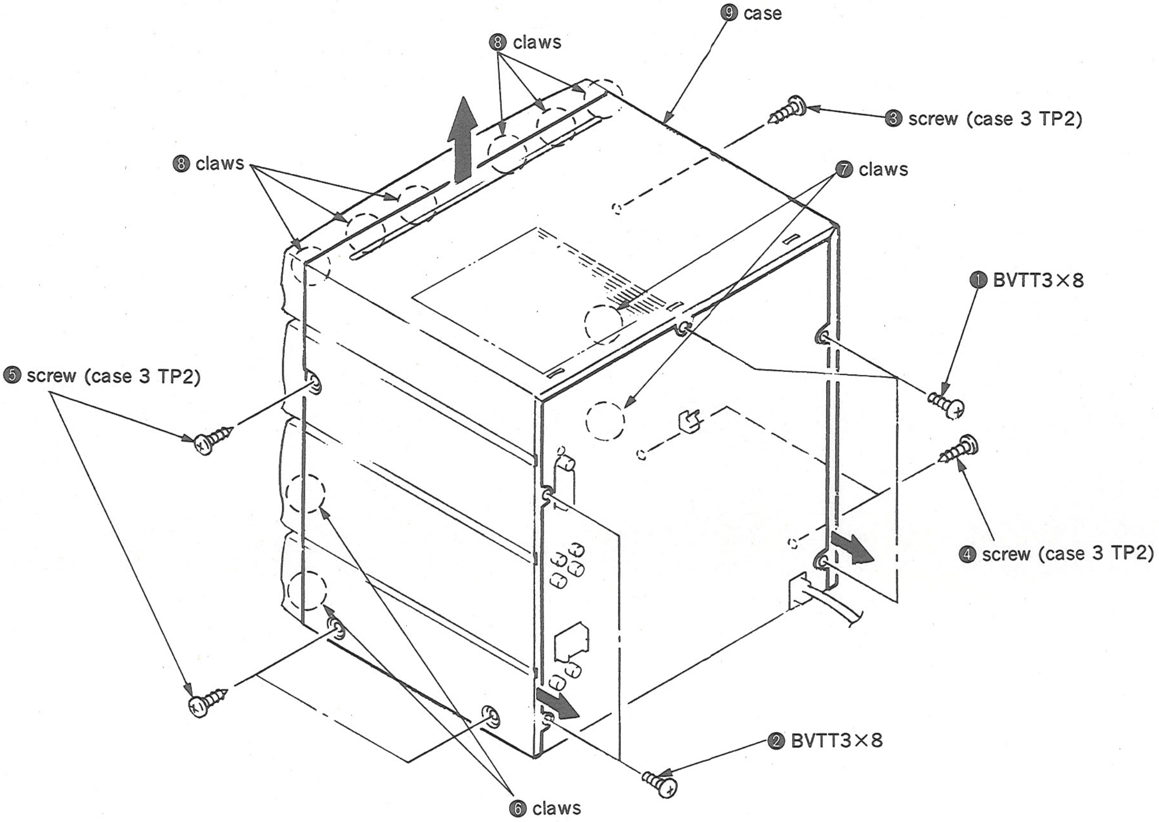
1. FUNCTION button
   Each time this button is pressed, the function mode changes among VIDEO, TAPE, CD, TUNER and PHONO.
2. This button is inoperative with this unit.
3. CD operation buttons
   ⏮ / ⏭ (AMS*) buttons, ▶ (play) button, ❚❚ (pause) button , ■ (stop) button
4. TAPE DECK A and DECK B operation buttons
   ◀◀ / ▶▶ (AMS*) buttons,
   ◀ / ▶ Play buttons,
   ■ Stop buttons
   DECK B only
   ● Recording button,
   ❚❚ Pause button
5. Tuner operation buttons
   SHIFT button
   PRESET +/– buttons
      These buttons are used to select the preset station number.
6. SELECT 5 button
      Each time the button is pressed, the preset equalization switches among 5 preset patterns (FLAT, DANCE, POPS, ROCK and CLASSIC).
7. VOL (volume) +/– buttons
8. SYSTEM POWER button

- AMS is the abbreviation of Automatic Music Sensor.

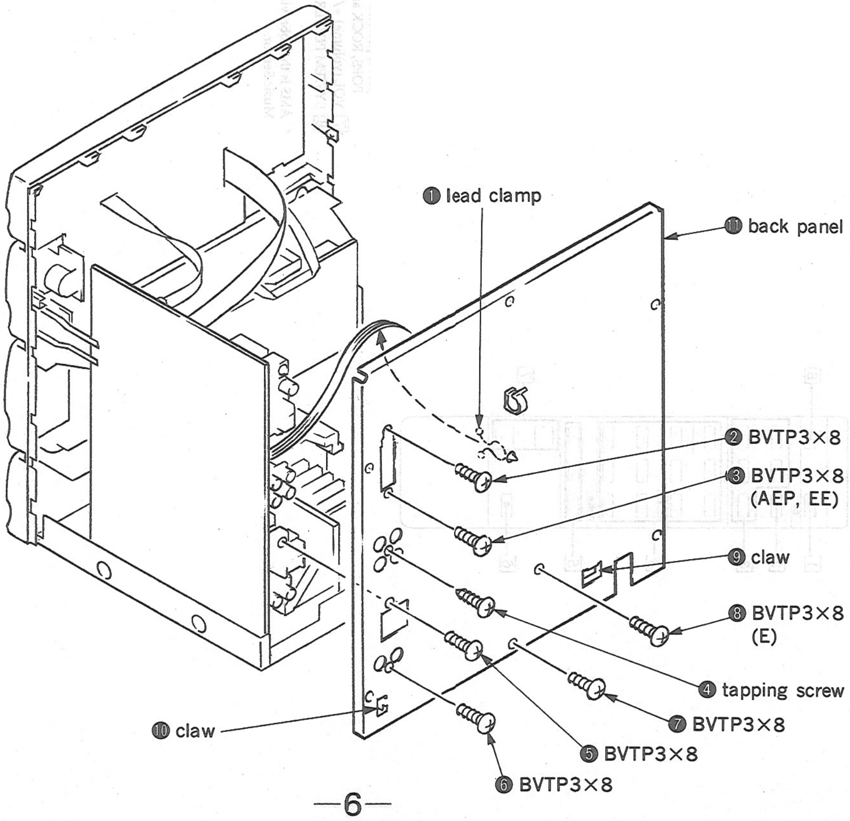
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

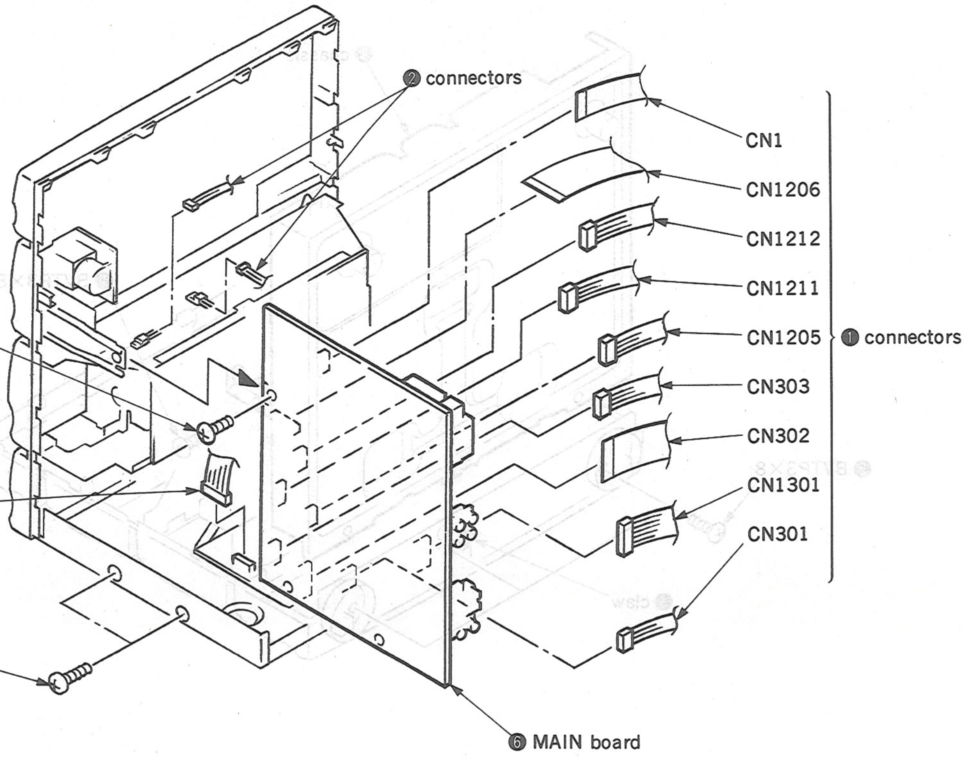
2-1. CASE


⑨ case
⑧ claws
③ screw (case 3 TP2)
⑧ claws
⑦ claws
① BVTT3×8
⑤ screw (case 3 TP2)
④ screw (case 3 TP2)
② BVTT3×8
⑥ claws

2-2. BACK PANEL

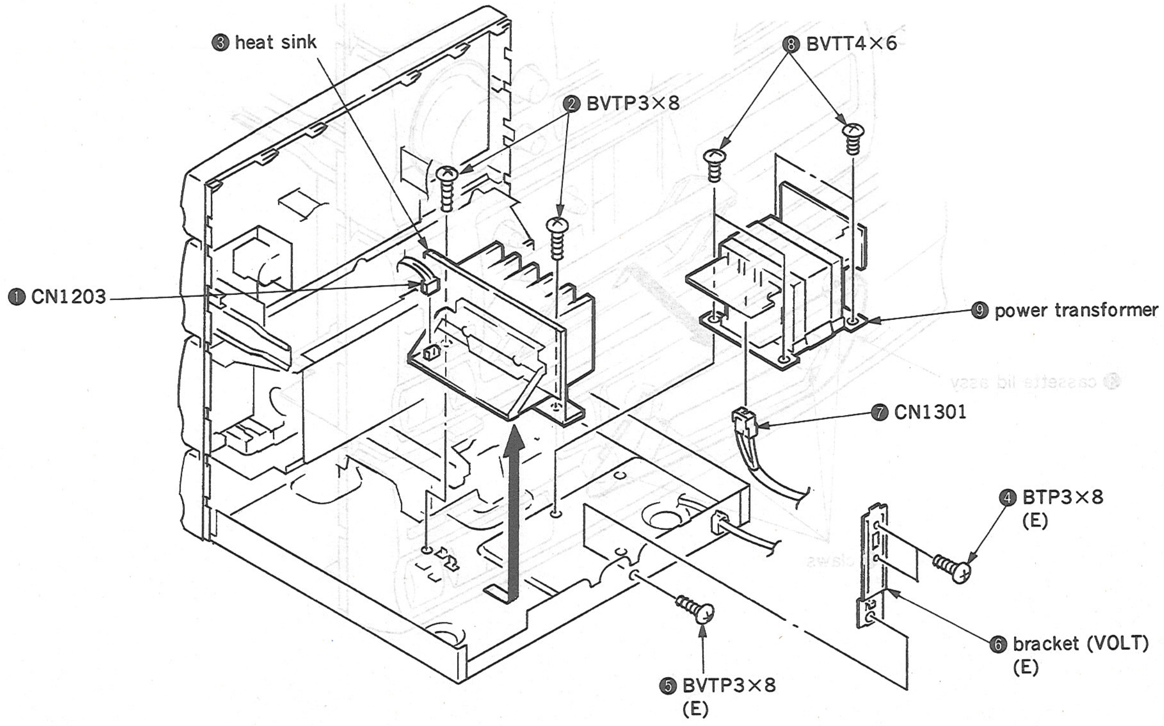

① lead clamp
⑪ back panel
② BVTP3×8
③ BVTP3×8
(AEP, EE)
⑨ claw
⑧ BVTP3×8
(E)
④ tapping screw
⑦ BVTP3×8
⑩ claw
⑤ BVTP3×8
⑥ BVTP3×8

2-3. MAIN BOARD



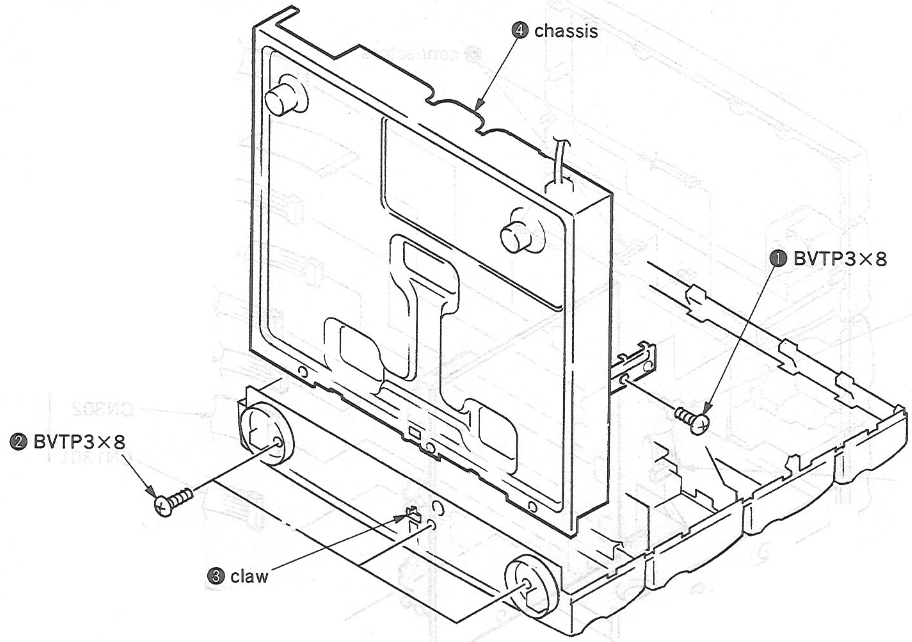
② connectors
CN1
CN1206
CN1212
CN1211
CN1205
① connectors
CN303
CN302
CN1301
CN301
④ BVTP3×8
③ CN1204
⑤ BVTP3×8
⑥ MAIN board

2-4. POWER TRANSFORMER



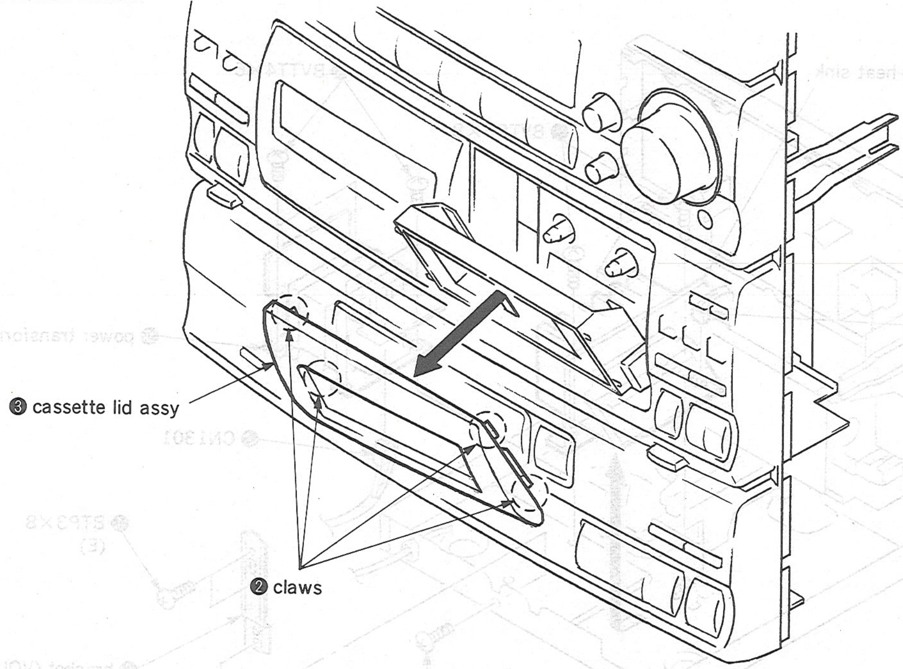
③ heat sink
⑧ BVTT4×6
② BVTP3×8
① CN1203
⑨ power transformer
⑦ CN1301
④ BTP3×8
(E)
⑥ bracket (VOLT)
(E)
⑤ BVTP3×8
(E)

2-5. CHASSIS


④ chassis
① BVTP3×8
② BVTP3×8
③ claw

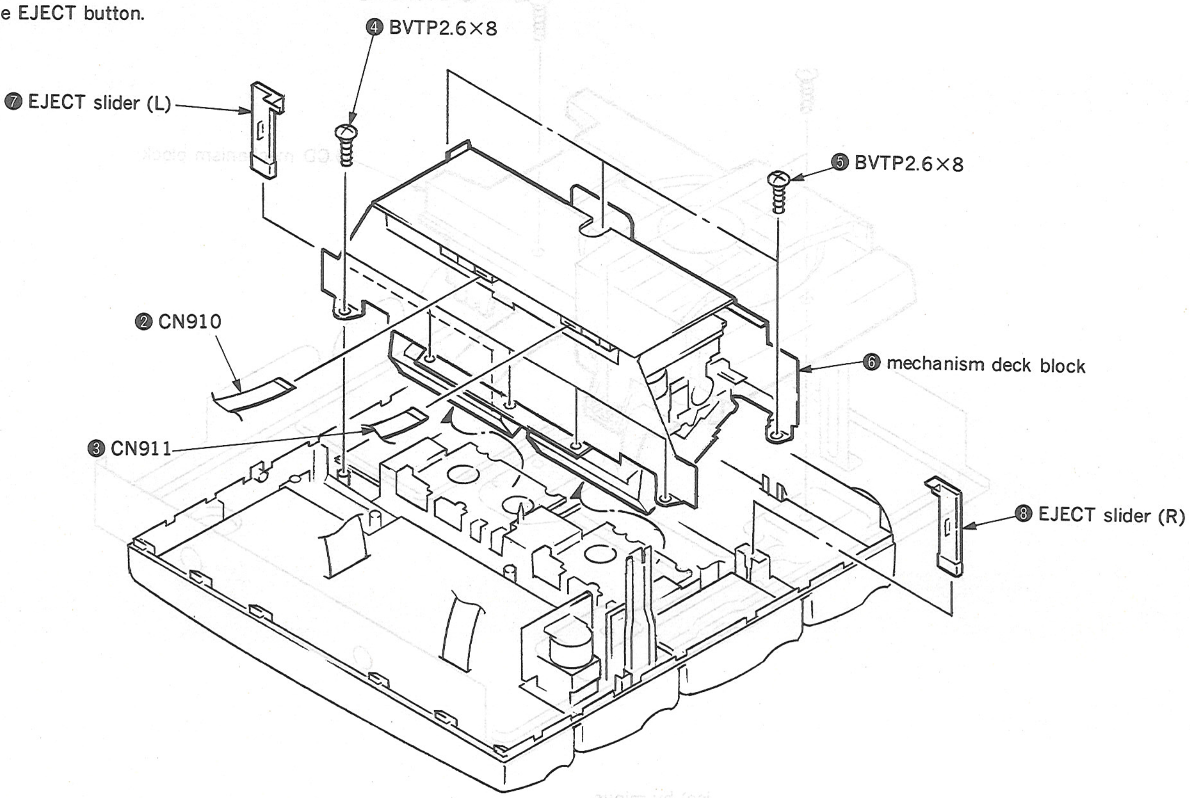
2-6. CASSETTE LID ASSY

① Push the EJECT button.

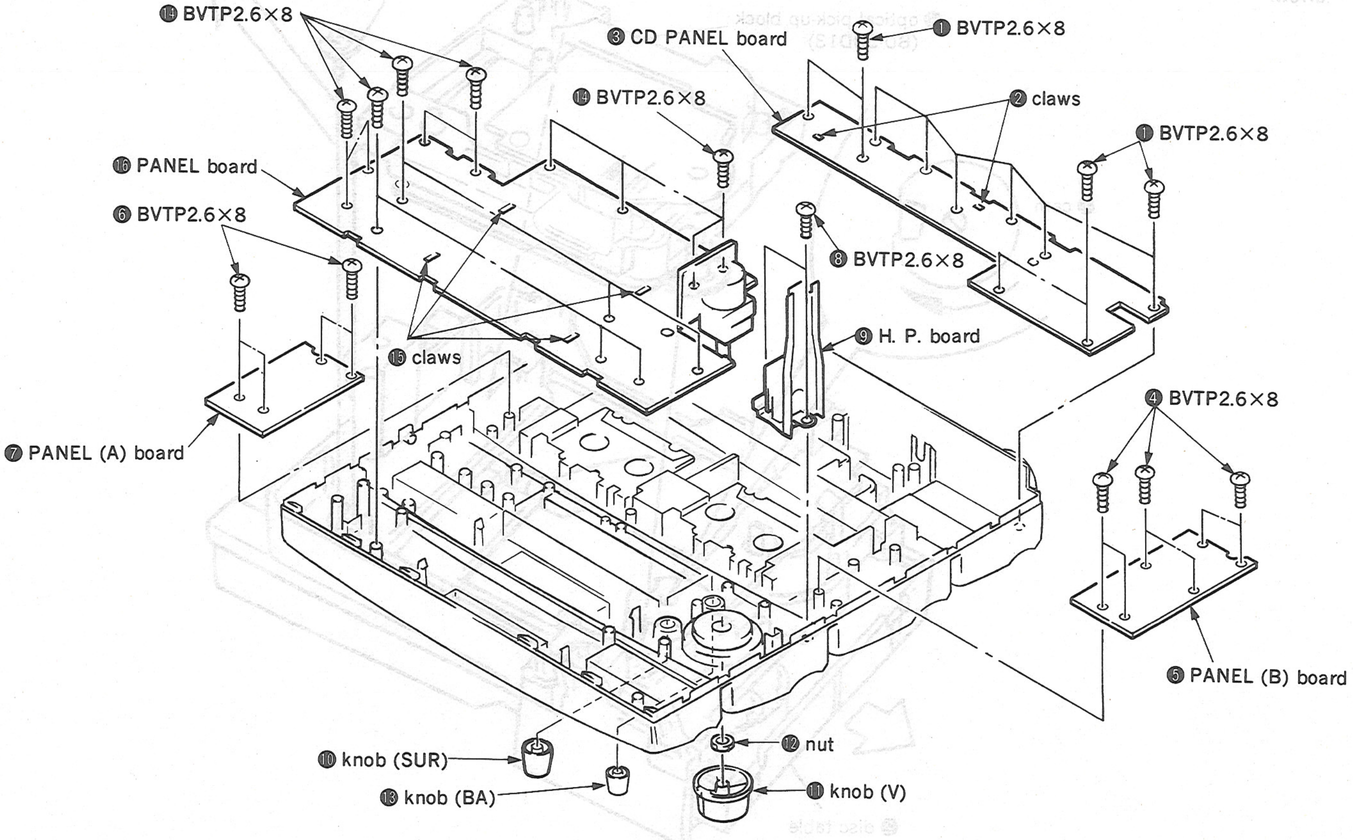

③ cassette lid assy
② claws

2-7. MECHANISM DECK BLOCK

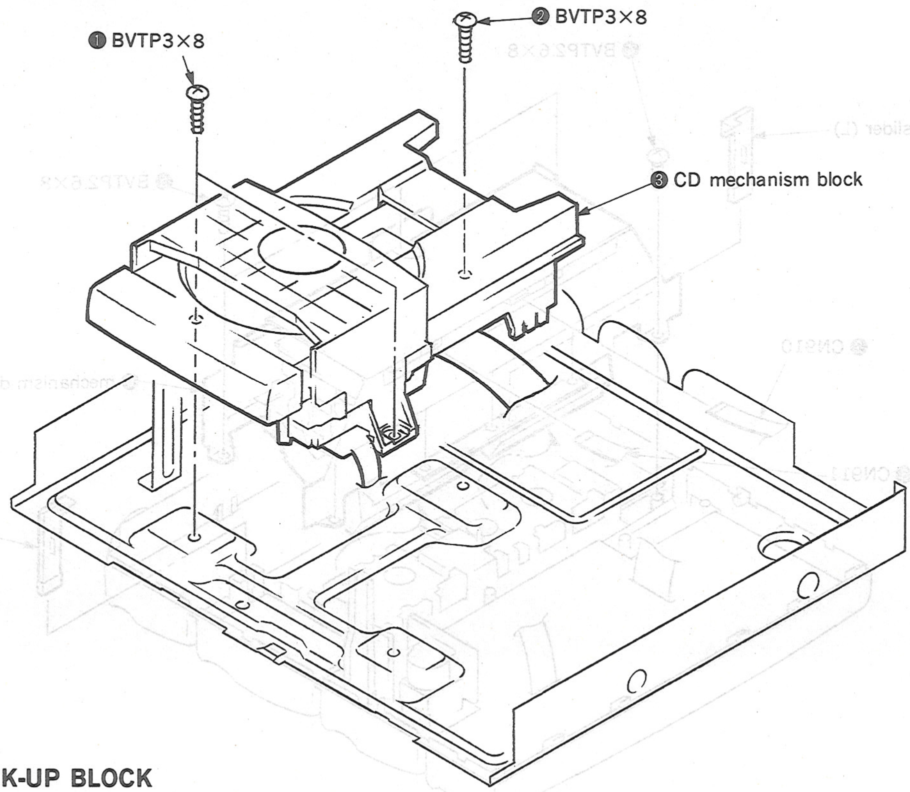
① Push the EJECT button.


④ BVTP2.6×8
⑦ EJECT slider (L)
⑤ BVTP2.6×8
② CN910
⑥ mechanism deck block
③ CN911
⑧ EJECT slider (R)

2-8. PANEL BOARD

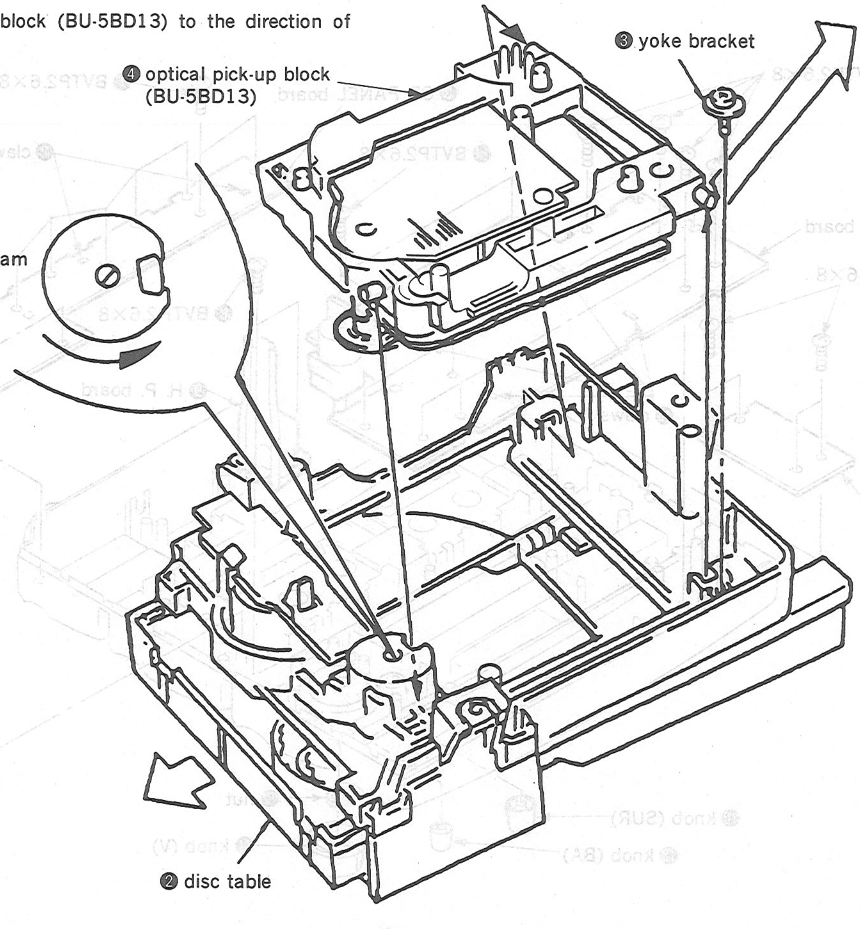

⑭ BVTP2.6×8
③ CD PANEL board
① BVTP2.6×8
⑭ BVTP2.6×8
② claws
① BVTP2.6×8
⑯ PANEL board
⑥ BVTP2.6×8
⑧ BVTP2.6×8
⑨ H. P. board
⑮ claws
⑦ PANEL (A) board
④ BVTP2.6×8
⑤ PANEL (B) board
⑫ nut
⑩ knob (SUR)
⑬ knob (BA)
⑪ knob (V)

2-9. CD MECHANISM BLOCK


① BVTP3×8
② BVTP3×8
③ CD mechanism block

2-10. OPTICAL PICK-UP BLOCK

① Turn the cam to the direction of arrow (Counter clock wise) by minus screw driver.
② Take off the disc table.
③ Remove the yoke bracket.
④ Remove the optical pick-up block (BU-5BD13) to the direction of arrow.


④ optical pick-up block
(BU-5BD13)
③ yoke bracket
① cam
② disc table

SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab :
   record/playback/erase head pinch roller
   rubber belts idlers
   capstan
2. Demagnetize the record/playback head with a head demagnetizer.
   (Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be perfomed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	35 to 60g•cm (0.49 to 0.83 oz•inch)
Forward back tension	CQ-102C	2 to 6g•cm (0.028 to 0.083 oz•inch)
Reverse	CQ-102RC	35 to 60g•cm (0.49 to 0.83 oz•inch)
Reverse back tension	CQ-102RC	2 to 6g•cm (0.028 to 0.083 oz•inch)
Forward, Reverse	CQ-201B	70 to 110g•cm (0.97 to 1.53 oz•inch)

SECTION 4
ELECTRICAL ADJUSTMENTS

DECK SECTION **0dB=0.775V**

PRECAUTION

1. The adjustment should be performed in the publication. (Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.
   - Switch position
     DOLBY NR switch : OFF
     DIRECTION MODE switch : ⇄
3. Perior to electrical adjustments, short the connector CN904 (TEST) on the MAIN TC board.
   After adjustments, open the connector CN904.

Test Tape

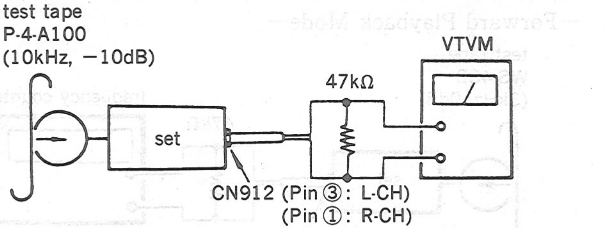
Tape	Contents	Use
P-4-A100	10kHz, −10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment

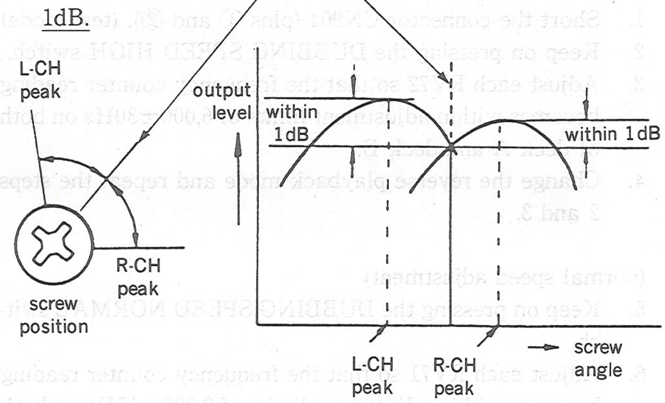
DECK A **DECK B**

Procedure :

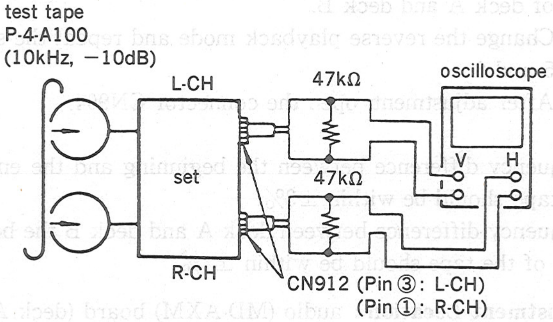
1. Forward Playback Mode

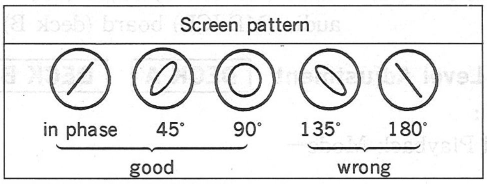

test tape
P-4-A100
(10kHz, −10dB)
VTVM
47kΩ
set
CN912 (Pin ③: L-CH)
(Pin ①: R-CH)

2. Turn the adjustment screw for the maximum output levels. If these levels do notmatch, turn the adjustment screw until both of output levels match together within 1dB.


L-CH peak
output level
within 1dB
within 1dB
R-CH peak
screw position
L-CH peak
R-CH peak
screw angle

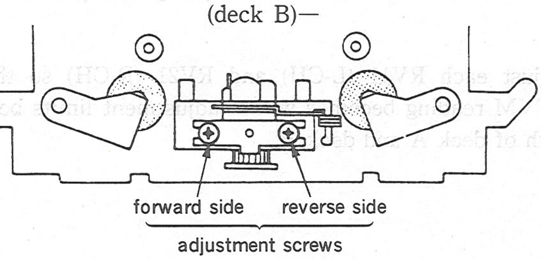
3. Playback Mode


test tape
P-4-A100
(10kHz, −10dB)
L-CH
47kΩ
oscilloscope
set
47kΩ
V
H
R-CH
CN912 (Pin ③: L-CH)
(Pin ①: R-CH)


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

4. Change the reverse playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screws with suitable locking compound.

Adjustment Location : —playback head (deck A)—
—record/playback/erase head (deck B)—

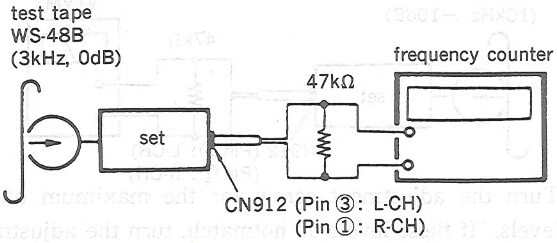

forward side
reverse side
adjustment screws

Tape Speed Adjustment **DECK A** **DECK B**

Perform high speed adjustment before normal speed adjustment.

Procedure :

—Forward Playback Mode—


test tape
WS-48B
(3kHz, 0dB)
frequency counter
47kΩ
set
CN912 (Pin ③: L-CH)
(Pin ①: R-CH)

(high speed adjustment)

1. Short the connector CN904 (pins ① and ②). (test mode)
2. Keep on pressing the DUBBING SPEED HIGH switch.
3. Adjust each RV72 so that the frequency counter reading becomes within adjustment limits of 6,000±30Hz on both of deck A and deck B.
4. Change the reverse playback mode and repeat the steps 2 and 3.

(normal speed adjustment)

5. Keep on pressing the DUBBING SPEED NORMAL switch.
6. Adjust each RV71 so that the frequency counter reading becomes within adjustment limits of 3,000±15Hz on both of deck A and deck B.
7. Change the reverse playback mode and repeat the steps 5 and 6.
8. After adjustment, open the connector CN904.

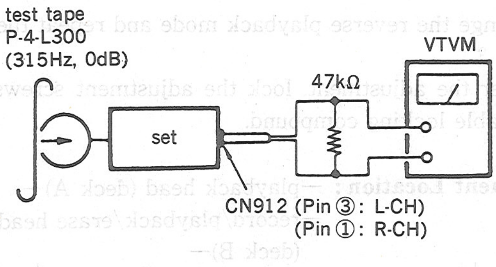
Frequency difference between the beginning and the end of the tape should be within ±3%.
Frequency difference between deck A and deck B the beginning of the tape should be within ±1%.

Adjustment Location : audio (MD-AXM) board (deck A)
audio (MD-ICD) board (deck B)

Playback Level Adjustment **DECK A** **DECK B**

Procedure :

—Forward Playback Mode—


test tape
P-4-L300
(315Hz, 0dB)
VTVM
47kΩ
set
CN912 (Pin ③: L-CH)
(Pin ①: R-CH)

Adjust each RV11 (L-CH) and RV21 (R-CH) so that the VTVM reading becomes within adjustment limits below on both of deck A and deck B.

Adjustment Limits :
LINE OUT level : −7.5±0.5dB (0.309 to 0.346V)
Level difference between channels : within 0.5dB

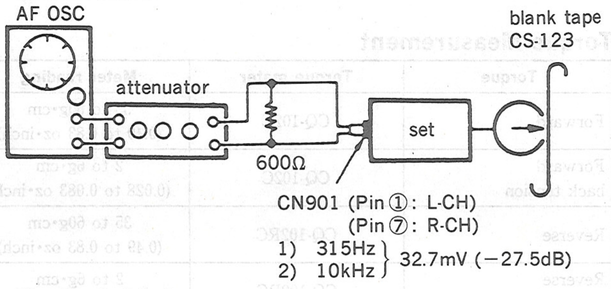
Confirm the DOLBY OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : audio (MD-AXM) board (deck A)
audio (MD-ICD) board (deck B)

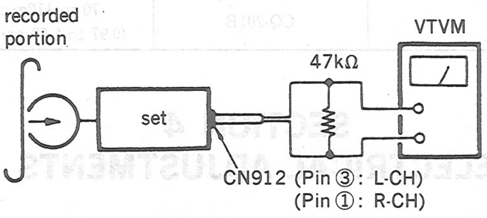
Record Bias Adjustment **DECK B**

Procedure :

1. Record Mode


AF OSC
blank tape
CS-123
attenuator
set
600Ω
CN901 (Pin ①: L-CH)
(Pin ⑦: R-CH)
1) 315Hz
2) 10kHz
32.7mV (−27.5dB)

2. Playback Mode


recorded portion
VTVM
47kΩ
set
CN912 (Pin ③: L-CH)
(Pin ①: R-CH)

3. Playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.
4. If the adjustment limits are not satisfied, adjust each RV12 (L-CH) and RV22 (R-CH) so that the VTVM reading becomes within adjustment limits below.

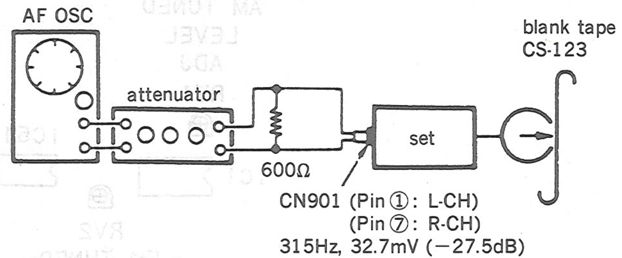
Adjustment Limits :
10kHz playback output
relative to the 315Hz output : 0±0.5dB
(0.732 to 0.821V)

Adjustment Location : audio (MD-ICD) board (deck B)

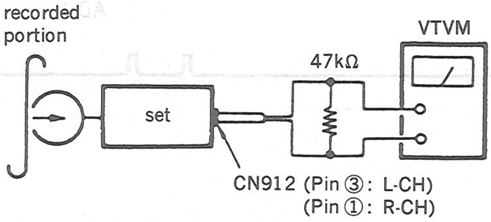
Record Level Adjustment **DECK B**

Procedure :

1. Record Mode


AF OSC
attenuator
600Ω
set
blank tape
CS-123
CN901 (Pin ①: L-CH)
(Pin ⑦: R-CH)
315Hz, 32.7mV (−27.5dB)

2. Playback Mode


recorded
portion
set
47kΩ
VTVM
CN912 (Pin ③: L-CH)
(Pin ①: R-CH)

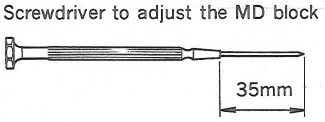
3. Playback the signal recorded in step 1, and confirm that the playback output level is VTVM reading becomes within adjustment limits below.
4. If the adjustment limits are not satisfied, adjust each RV701 (L-CH) and RV801 (R-CH) so that the VTVM reading becomes within adjustment limits below.

Adjustment Limits :

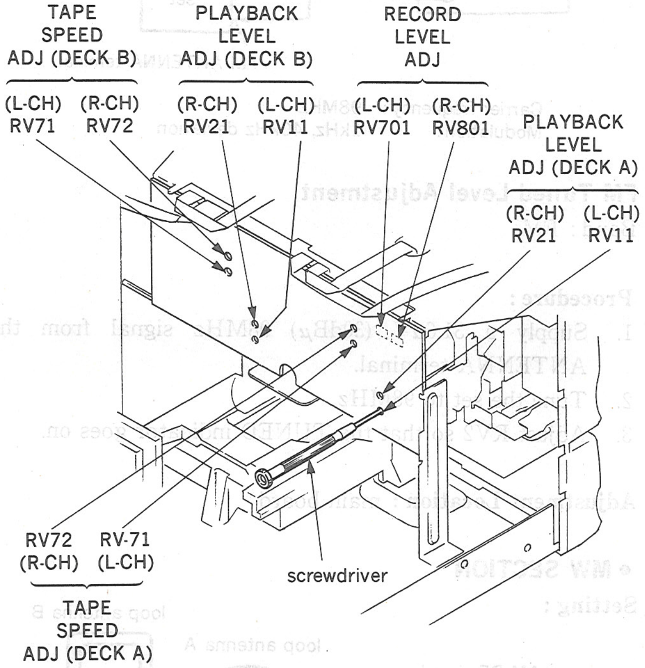
315Hz playback output level : −27.5±0.5dB (30.9 to 34.6mV)

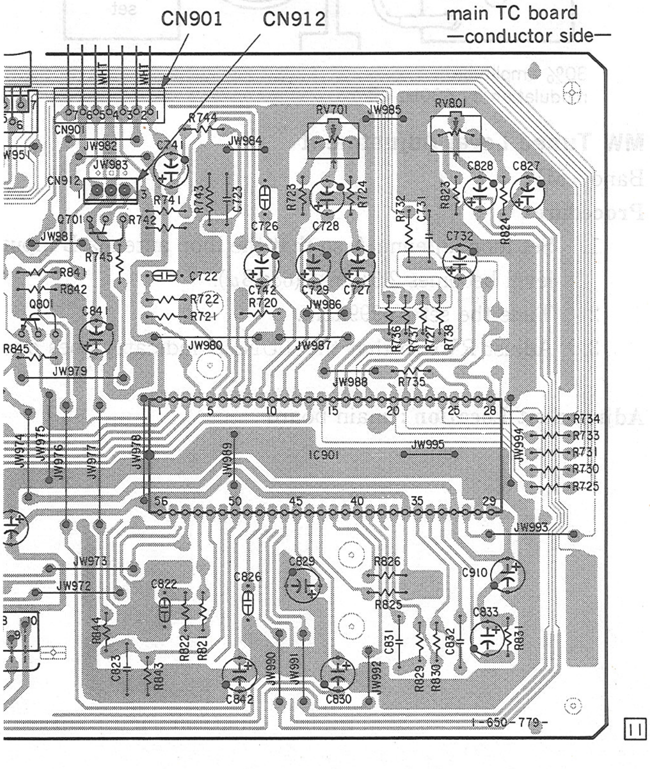
Adjustment Location : main TC board

Adjustment Location :


Screwdriver to adjust the MD block
35mm

The MD block adjustment can be performed by inserting a screwdriver of which axis length (not including the shaft) is 35mm or more through the rear side of the main TC board.

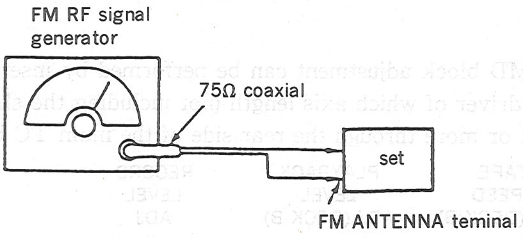

TAPE SPEED ADJ (DECK B)
(L-CH) RV71
(R-CH) RV72
PLAYBACK LEVEL ADJ (DECK B)
(R-CH) RV21
(L-CH) RV11
RECORD LEVEL ADJ
(L-CH) RV701
(R-CH) RV801
PLAYBACK LEVEL ADJ (DECK A)
(R-CH) RV21
(L-CH) RV11
RV72 (R-CH)
RV-71 (L-CH)
TAPE SPEED ADJ (DECK A)
screwdriver


CN901
CN912
main TC board
—conductor side—
RV701
RV801
IC901
Q701
Q801
1-650-779-
11

TUNER SECTION | 0dB=1μV

• FM SECTION

Setting :


FM RF signal generator
75Ω coaxial
set
FM ANTENNA teminal

Carrier frequency : 98MHz
Modulation : 1kHz, 40kHz deviation

FM Tuned Level Adjustment

Band : FM

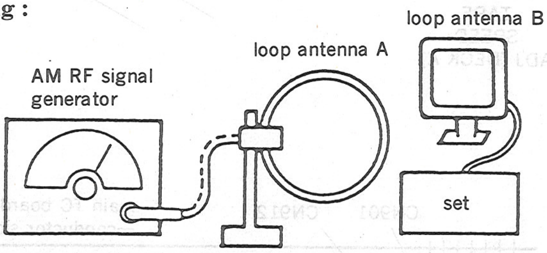
Procedure :

1. Supply a 31.6μV (30dBμ) 98MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust RV2 so that the TUNED indicator goes on.

Adjustment Location : main board

• MW SECTION

Setting :


loop antenna B
loop antenna A
AM RF signal generator
set

30% amplitude modulation by 400Hz signal

MW Tuned Level Adjustment

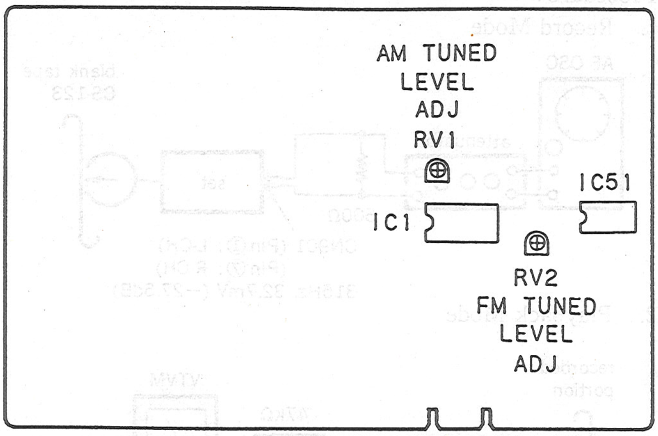
Band : MW

Procedure :

1. Set loop antenna A so that the loop antenna B input level becomes 2.512mV (68dBμ).
2. Tune the set to 999kHz.
3. Adjust RV1 so that the TUNED indicator goes on.

Adjustment Location : main board

Adjustment Location : main board (component side)

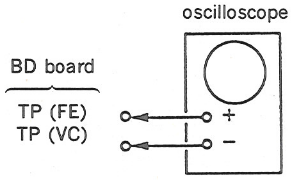

AM TUNED LEVEL ADJ RV1
IC51
IC1
RV2 FM TUNED LEVEL ADJ

CD SECTION

Note :

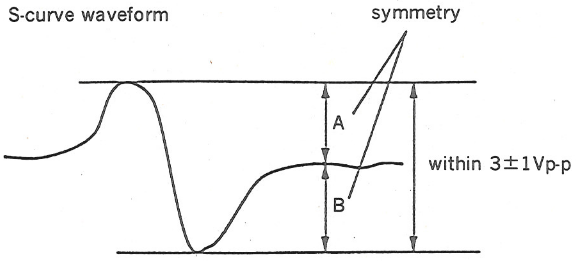
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an objective lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S-Curve Check


oscilloscope
BD board
TP (FE)
TP (VC)
+
−

Procedure :

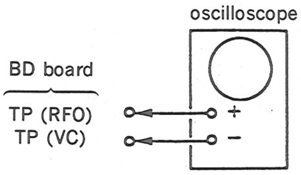
1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (Actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.


S-curve waveform
symmetry
A
B
within 3±1Vp-p

6. After check, remove the lead wire connected in step 2.

Note :
- Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

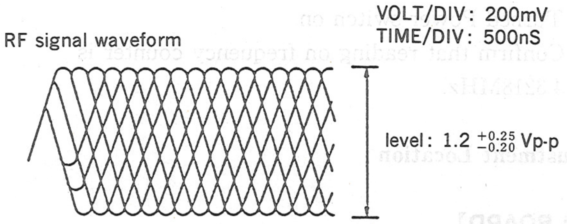
RF Level Check


oscilloscope
BD board
TP (RFO)
TP (VC)
+
−

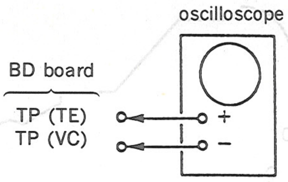
Procedure :

1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note : Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

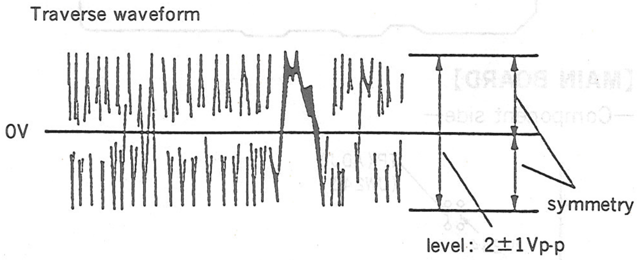

RF signal waveform
VOLT/DIV: 200mV
TIME/DIV: 500nS
level: 1.2 $^{+0.25}_{-0.20}$ Vp-p

E-F Balance Check


oscilloscope
BD board
TP (TE)
TP (VC)
+
−

Procedure :

1. Connect test point TP (ADJ) to ground and TP (TEI) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TE) on BD board.
3. Turned Power switch on.
4. Put disc (YEDS-18) is and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

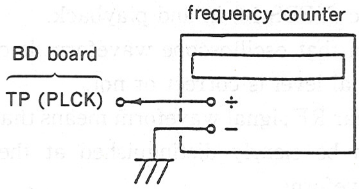

Traverse waveform
0V
symmetry
level: 2±1Vp-p

6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PLCK) with lead wire.

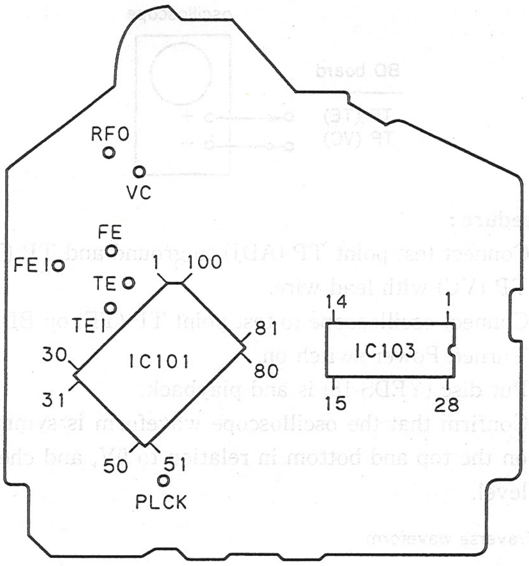

frequency counter
BD board
TP (PLCK)
+
−

2. Turned Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

Adjustment Location :

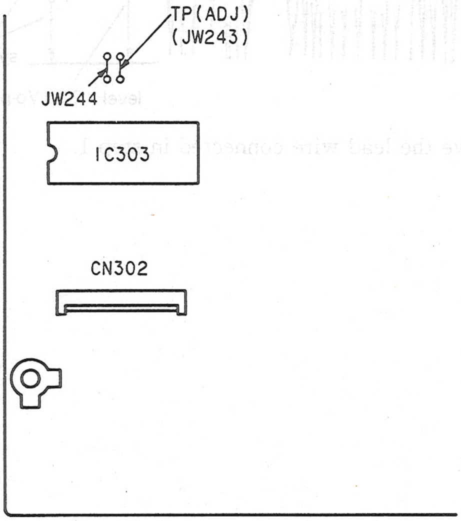
〔BD BOARD〕

—Side B—


RFO
VC
FE
FE I
TE
TE I
1
100
81
80
30
31
50
51
IC101
14
1
IC103
15
28
PLCK

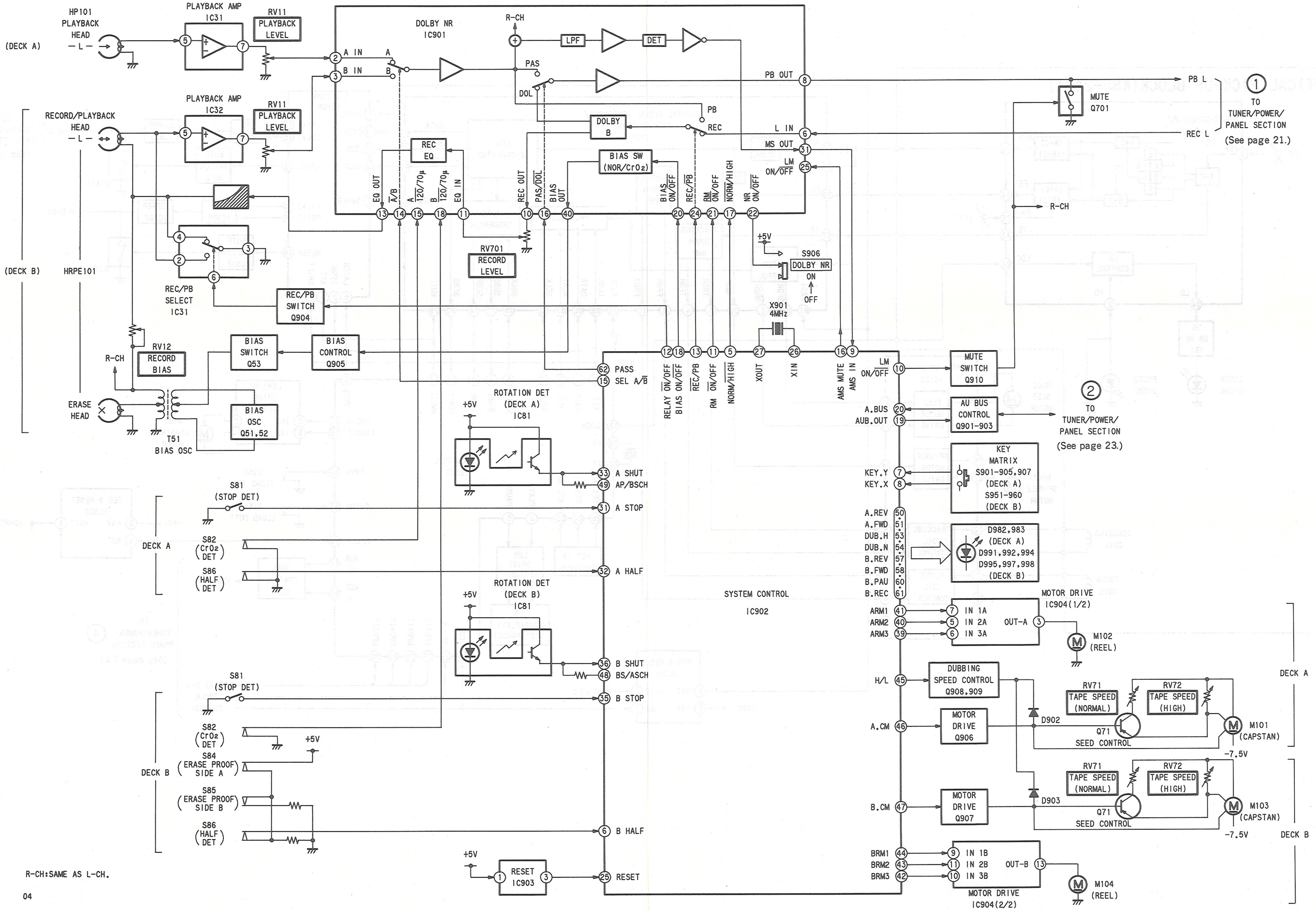
〔MAIN BOARD〕

—Component side—


TP(ADJ)
(JW243)
JW244
IC303
CN302

SECTION 5
DIAGRAMS

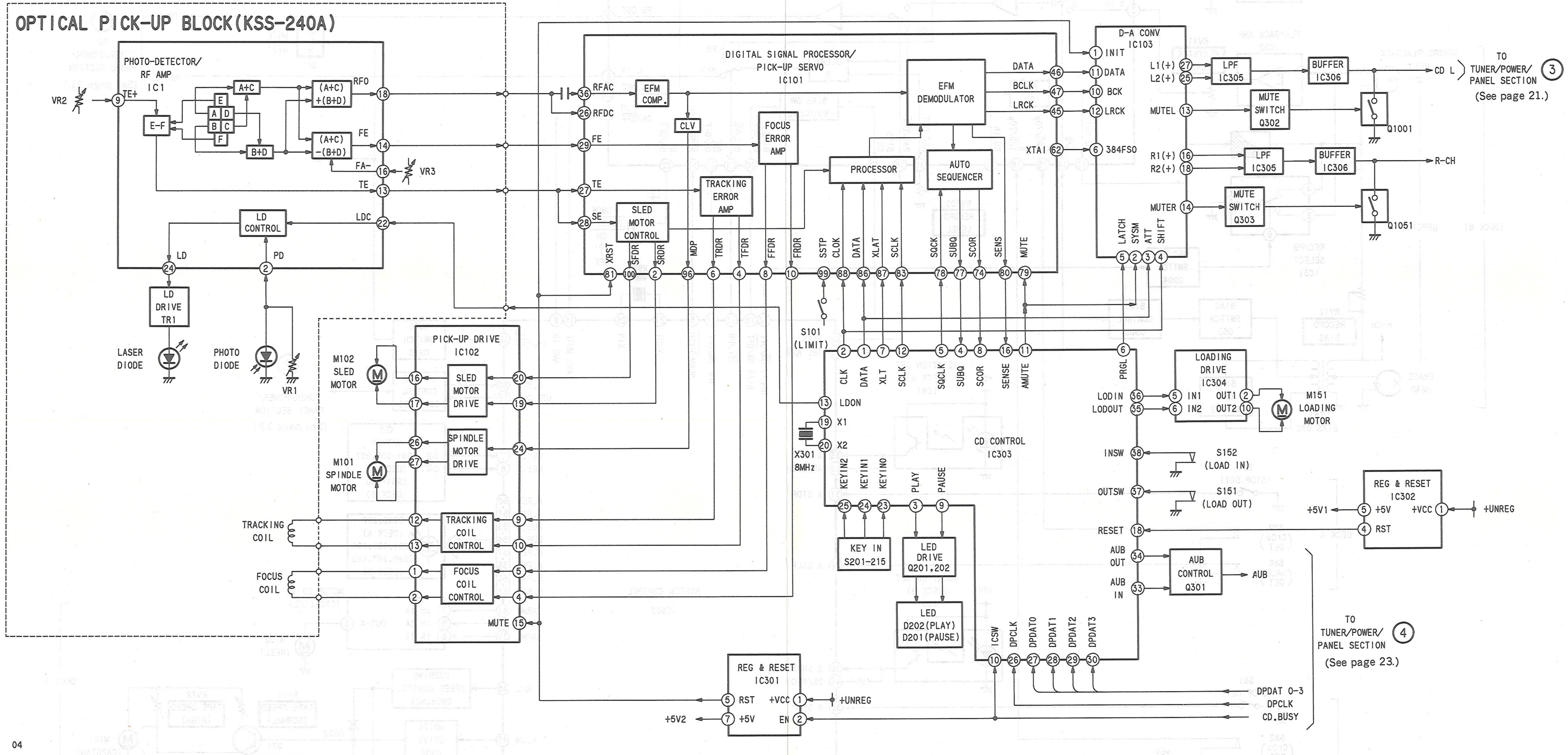
5-1. BLOCK DIAGRAM—DECK SECTION—


HP101
PLAYBACK
HEAD
(DECK A)
– L –
PLAYBACK AMP
IC31
RV11
PLAYBACK
LEVEL
RECORD/PLAYBACK
HEAD
– L –
PLAYBACK AMP
IC32
RV11
PLAYBACK
LEVEL
(DECK B)
HRPE101
REC/PB
SELECT
IC31
REC/PB
SWITCH
Q904
RV12
RECORD
BIAS
R-CH
BIAS
SWITCH
Q53
BIAS
CONTROL
Q905
ERASE
HEAD
T51
BIAS OSC
BIAS
OSC
Q51,52
DOLBY NR
IC901
A IN
B IN
R-CH
LPF
DET
PAS
DOL
PB OUT
PB
REC
DOLBY
B
L IN
MS OUT
LM
ON/OFF
REC
EQ
BIAS SW
(NOR/CrO2)
EQ OUT
A/B
A 120/70μ
B 120/70μ
EQ IN
REC OUT
PAS/DOL
BIAS OUT
BIAS ON/OFF
REC/PB
RM ON/OFF
NORM/HIGH
NR ON/OFF
RV701
RECORD
LEVEL
+5V
S906
DOLBY NR
ON
OFF
X901
4MHz
PB L
REC L
MUTE
Q701
①
TO
TUNER/POWER/
PANEL SECTION
(See page 21.)
R-CH
PASS
SEL A/B
RELAY ON/OFF
BIAS ON/OFF
REC/PB
RM ON/OFF
NORM/HIGH
XOUT
XIN
AMS MUTE
AMS IN
LM
ON/OFF
MUTE
SWITCH
Q910
A.BUS
AUB.OUT
AU BUS
CONTROL
Q901-903
②
TO
TUNER/POWER/
PANEL SECTION
(See page 23.)
ROTATION DET
(DECK A)
IC81
+5V
A SHUT
AP/BSCH
S81
(STOP DET)
A STOP
DECK A
S82
(CrO2 DET)
S86
(HALF DET)
A HALF
KEY.Y
KEY.X
KEY
MATRIX
S901-905,907
(DECK A)
S951-960
(DECK B)
A.REV
A.FWD
DUB.H
DUB.N
B.REV
B.FWD
B.PAU
B.REC
D982,983
(DECK A)
D991,992,994
D995,997,998
(DECK B)
ROTATION DET
(DECK B)
IC81
+5V
SYSTEM CONTROL
IC902
B SHUT
BS/ASCH
S81
(STOP DET)
B STOP
ARM1
ARM2
ARM3
IN 1A
IN 2A
IN 3A
OUT-A
MOTOR DRIVE
IC904(1/2)
M102
(REEL)
H/L
DUBBING
SPEED CONTROL
Q908,909
RV71
TAPE SPEED
(NORMAL)
RV72
TAPE SPEED
(HIGH)
DECK A
A.CM
MOTOR
DRIVE
Q906
D902
Q71
SEED CONTROL
M101
(CAPSTAN)
-7.5V
DECK B
S82
(CrO2 DET)
+5V
S84
(ERASE PROOF SIDE A)
S85
(ERASE PROOF SIDE B)
S86
(HALF DET)
B HALF
B.CM
MOTOR
DRIVE
Q907
D903
RV71
TAPE SPEED
(NORMAL)
RV72
TAPE SPEED
(HIGH)
Q71
SEED CONTROL
M103
(CAPSTAN)
-7.5V
DECK B
+5V
RESET
IC903
RESET
BRM1
BRM2
BRM3
IN 1B
IN 2B
IN 3B
OUT-B
MOTOR DRIVE
IC904(2/2)
M104
(REEL)

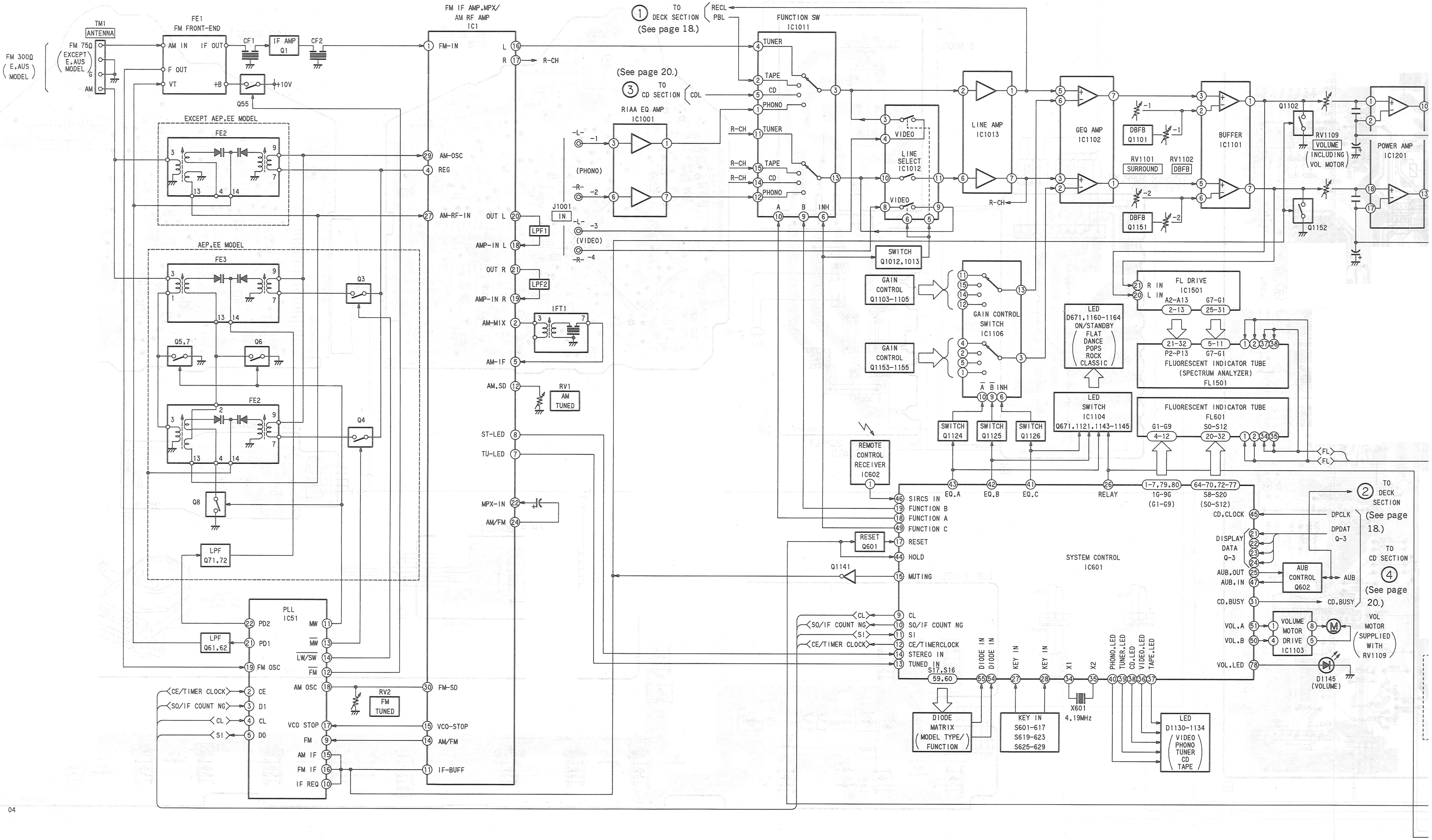
R-CH:SAME AS L-CH.

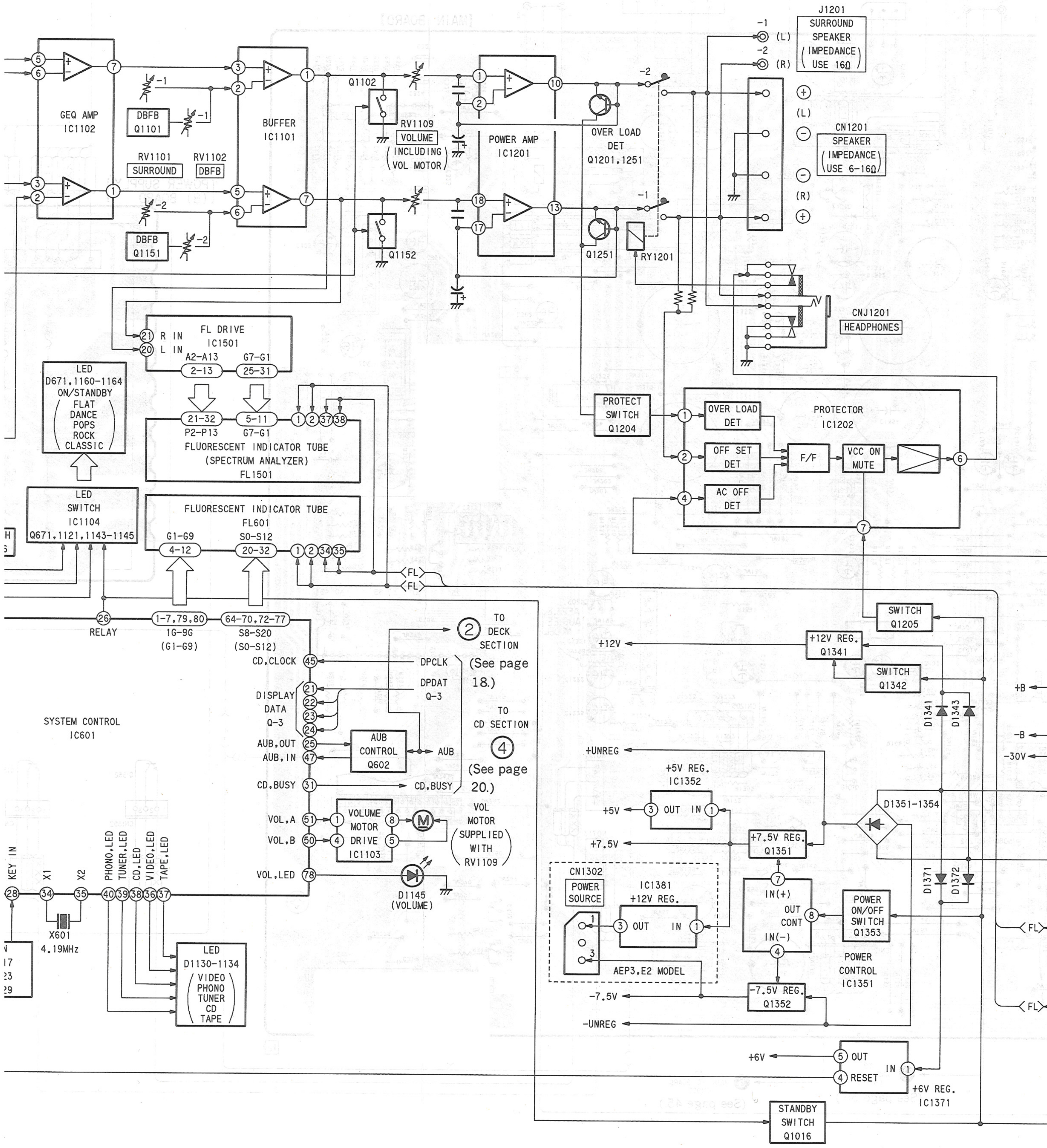
04

5-2. BLOCK DIAGRAM—CD SECTION—

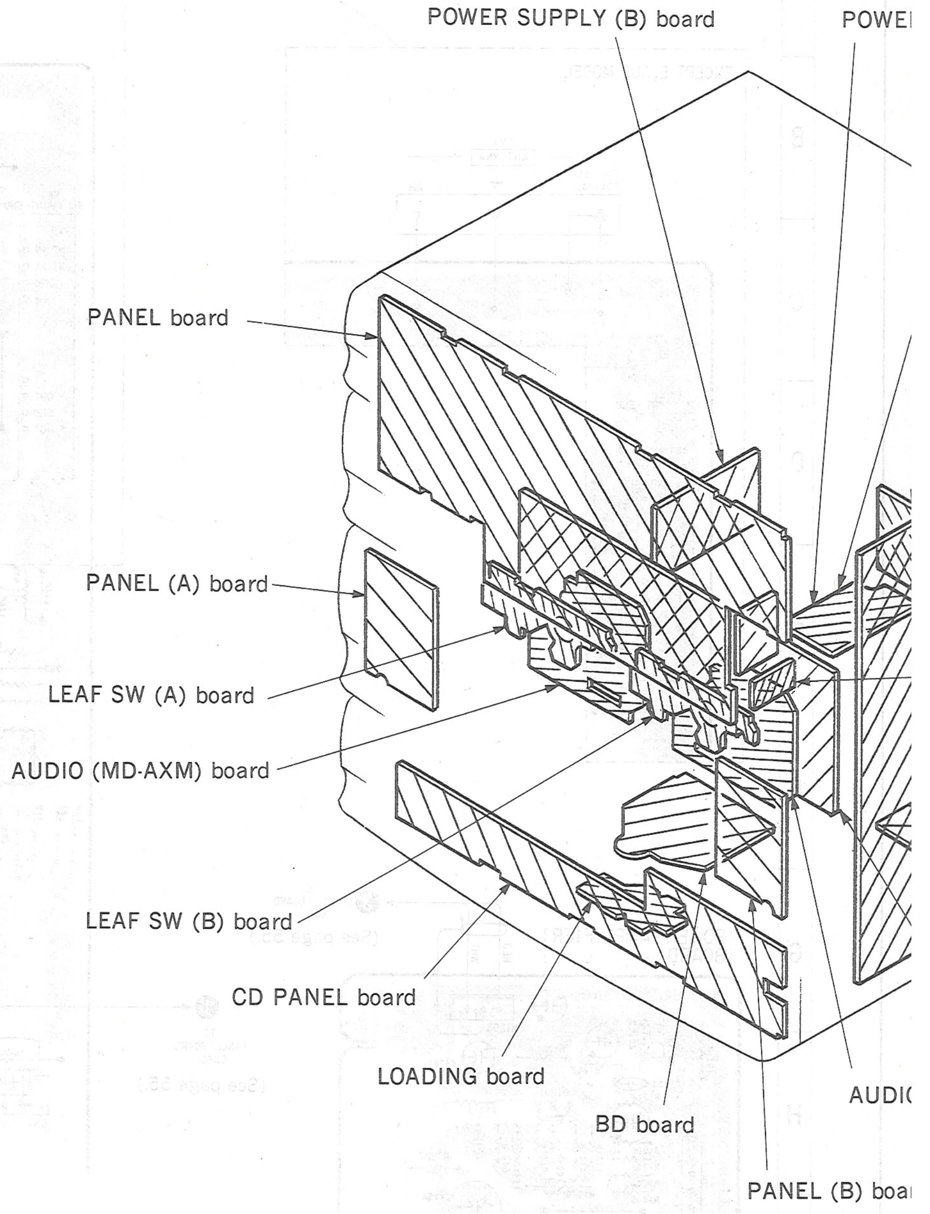

OPTICAL PICK-UP BLOCK(KSS-240A)
PHOTO-DETECTOR/
RF AMP
IC1
VR2
TE+
E-F
A+C
B+D
E
A
D
B
C
F
(A+C)
+(B+D)
RFO
(A+C)
-(B+D)
FE
FA-
VR3
TE
LD CONTROL
LDC
LD
PD
LD DRIVE TR1
LASER DIODE
PHOTO DIODE
VR1
DIGITAL SIGNAL PROCESSOR/
PICK-UP SERVO
IC101
RFAC
RFDC
FE
TE
SE
EFM COMP.
CLV
FOCUS ERROR AMP
TRACKING ERROR AMP
SLED MOTOR CONTROL
EFM DEMODULATOR
PROCESSOR
AUTO SEQUENCER
DATA
BCLK
LRCK
XTAI
XRST
SFDR
SRDR
MDP
TRDR
TFDR
FFDR
FRDR
SSTP
CLOK
DATA
XLAT
SCLK
SQCK
SUBQ
SCOR
SENS
MUTE
S101
(LIMIT)
D-A CONV
IC103
INIT
DATA
BCK
LRCK
384FSO
L1(+)
L2(+)
MUTEL
R1(+)
R2(+)
MUTER
LATCH
SYSM
ATT
SHIFT
LPF
IC305
BUFFER
IC306
MUTE SWITCH
Q302
Q1001
LPF
IC305
BUFFER
IC306
MUTE SWITCH
Q303
Q1051
CD L
R-CH
TO
TUNER/POWER/
PANEL SECTION
③
(See page 21.)
PICK-UP DRIVE
IC102
M102
SLED MOTOR
SLED MOTOR DRIVE
M101
SPINDLE MOTOR
SPINDLE MOTOR DRIVE
TRACKING COIL
TRACKING COIL CONTROL
FOCUS COIL
FOCUS COIL CONTROL
MUTE
CD CONTROL
IC303
CLK
DATA
XLT
SCLK
SQCLK
SUBQ
SCOR
SENSE
AMUTE
PRGL
LDON
X1
X2
X301
8MHz
KEYIN2
KEYIN1
KEYIN0
PLAY
PAUSE
KEY IN
S201-215
LED DRIVE
Q201,202
LED
D202(PLAY)
D201(PAUSE)
ICSW
DPCLK
DPDAT0
DPDAT1
DPDAT2
DPDAT3
LODIN
LODOUT
LOADING DRIVE
IC304
IN1
IN2
OUT1
OUT2
M151
LOADING MOTOR
INSW
S152
(LOAD IN)
OUTSW
S151
(LOAD OUT)
RESET
AUB OUT
AUB IN
AUB CONTROL
Q301
AUB
REG & RESET
IC302
+5V1
+5V
+VCC
RST
+UNREG
TO
TUNER/POWER/
PANEL SECTION
④
(See page 23.)
DPDAT 0-3
DPCLK
CD.BUSY
REG & RESET
IC301
RST
+VCC
+UNREG
+5V2
+5V
EN

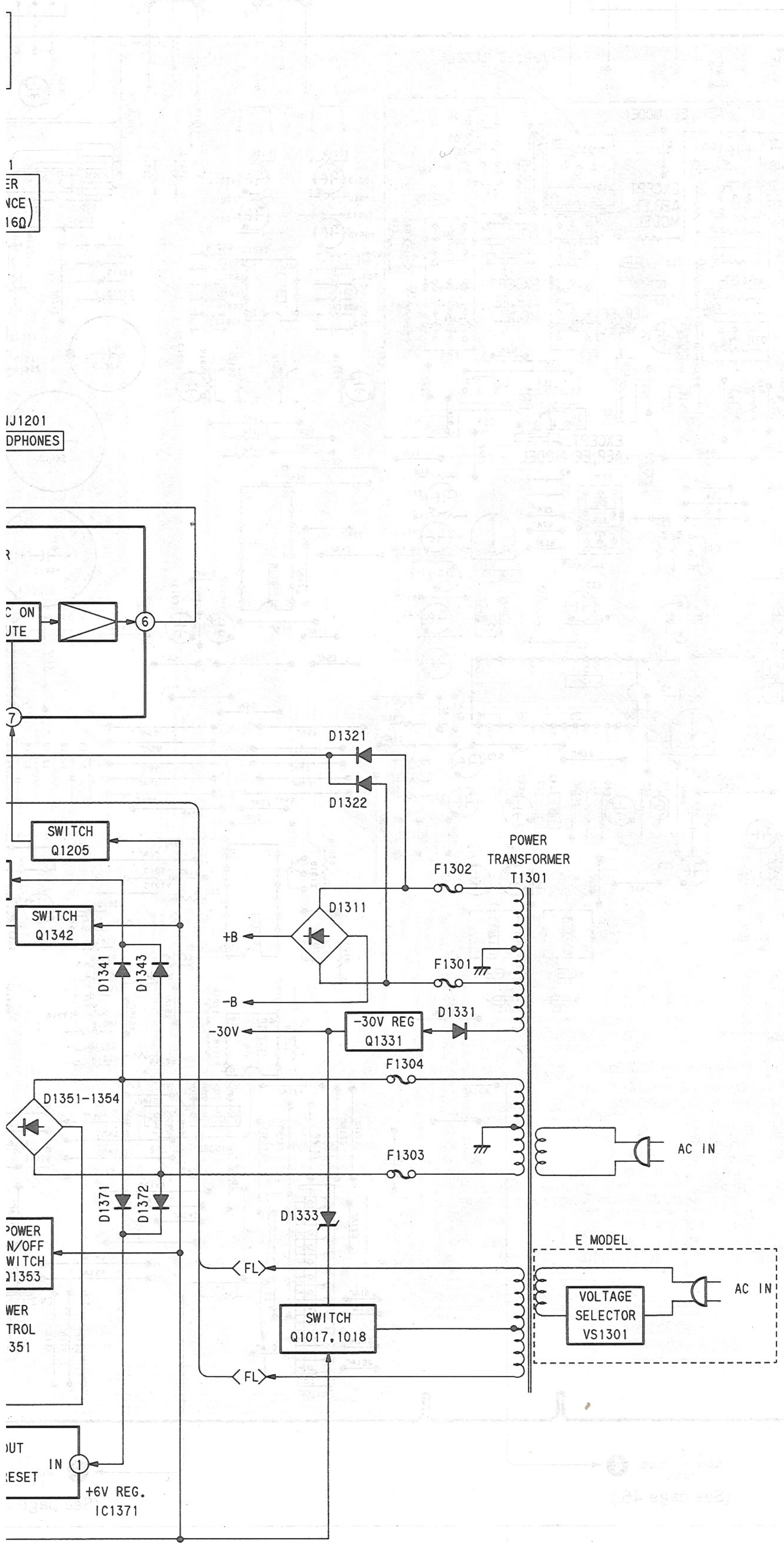
5-3. BLOCK DIAGRAM—TUNER/POWER/PANEL SECTION—


TM1
ANTENNA
FM 75Ω
(EXCEPT E,AUS MODEL)
FM 300Ω (E,AUS MODEL)
AM
FE1
FM FRONT-END
AM IN
IF OUT
F OUT
VT
+B
CF1
IF AMP Q1
CF2
Q55
+10V
EXCEPT AEP,EE MODEL
FE2
AEP,EE MODEL
FE3
Q3
Q5,7
Q6
Q4
Q8
LPF Q71,72
LPF Q61,62
PLL IC51
PD2
PD1
FM OSC
CE
DI
CL
DO
MW
LW/SW
FM
AM OSC
VCO STOP
AM IF
FM IF
IF REQ
CE/TIMER CLOCK
SO/IF COUNT NG
SI
RV2
FM TUNED
FM IF AMP,MPX/ AM RF AMP
IC1
FM-IN
AM-OSC
REG
AM-RF-IN
OUT L
AMP-IN L
OUT R
AMP-IN R
AM-MIX
AM-IF
AM.SD
ST-LED
TU-LED
MPX-IN
AM/FM
FM-SD
VCO-STOP
IF-BUFF
R-CH
LPF1
LPF2
IFT1
RV1
AM TUNED
① TO DECK SECTION (See page 18.)
RECL
PBL
③ TO CD SECTION (See page 20.)
CDL
RIAA EQ AMP
IC1001
J1001 IN
(PHONO)
(VIDEO)
FUNCTION SW
IC1011
TUNER
TAPE
CD
PHONO
VIDEO
LINE SELECT IC1012
SWITCH Q1012,1013
LINE AMP IC1013
GEQ AMP IC1102
DBFB Q1101
DBFB Q1151
RV1101 SURROUND
RV1102 DBFB
BUFFER IC1101
Q1102
Q1152
RV1109 VOLUME (INCLUDING VOL MOTOR)
POWER AMP IC1201
GAIN CONTROL Q1103-1105
GAIN CONTROL Q1153-1155
GAIN CONTROL SWITCH IC1106
SWITCH Q1124
SWITCH Q1125
SWITCH Q1126
LED D671,1160-1164 ON/STANDBY (FLAT DANCE POPS ROCK CLASSIC)
LED SWITCH IC1104 Q671,1121,1143-1145
FL DRIVE IC1501
R IN
L IN
A2-A13
G7-G1
P2-P13
FLUORESCENT INDICATOR TUBE (SPECTRUM ANALYZER) FL1501
FLUORESCENT INDICATOR TUBE FL601
G1-G9
S0-S12
FL
REMOTE CONTROL RECEIVER IC602
RESET Q601
Q1141
SYSTEM CONTROL IC601
SIRCS IN
FUNCTION B
FUNCTION A
FUNCTION C
RESET
HOLD
MUTING
CL
SO/IF COUNT NG
SI
CE/TIMERCLOCK
STEREO IN
TUNED IN
EQ.A
EQ.B
EQ.C
RELAY
1G-9G (G1-G9)
S8-S20 (S0-S12)
CD.CLOCK
DISPLAY DATA Q-3
AUB.OUT
AUB.IN
CD.BUSY
VOL.A
VOL.B
VOL.LED
② TO DECK SECTION (See page 18.)
DPCLK
DPDAT Q-3
④ TO CD SECTION (See page 20.)
AUB CONTROL Q602
AUB
CD.BUSY
VOLUME MOTOR DRIVE IC1103
VOL MOTOR (SUPPLIED WITH RV1109)
D1145 (VOLUME)
S17,S16
DIODE IN
KEY IN
X1
X2
PHONO.LED
TUNER.LED
CD.LED
VIDEO.LED
TAPE.LED
DIODE MATRIX (MODEL TYPE/ FUNCTION)
KEY IN S601-617 S619-623 S625-629
X601 4.19MHz
LED D1130-1134 (VIDEO PHONO TUNER CD TAPE)
04

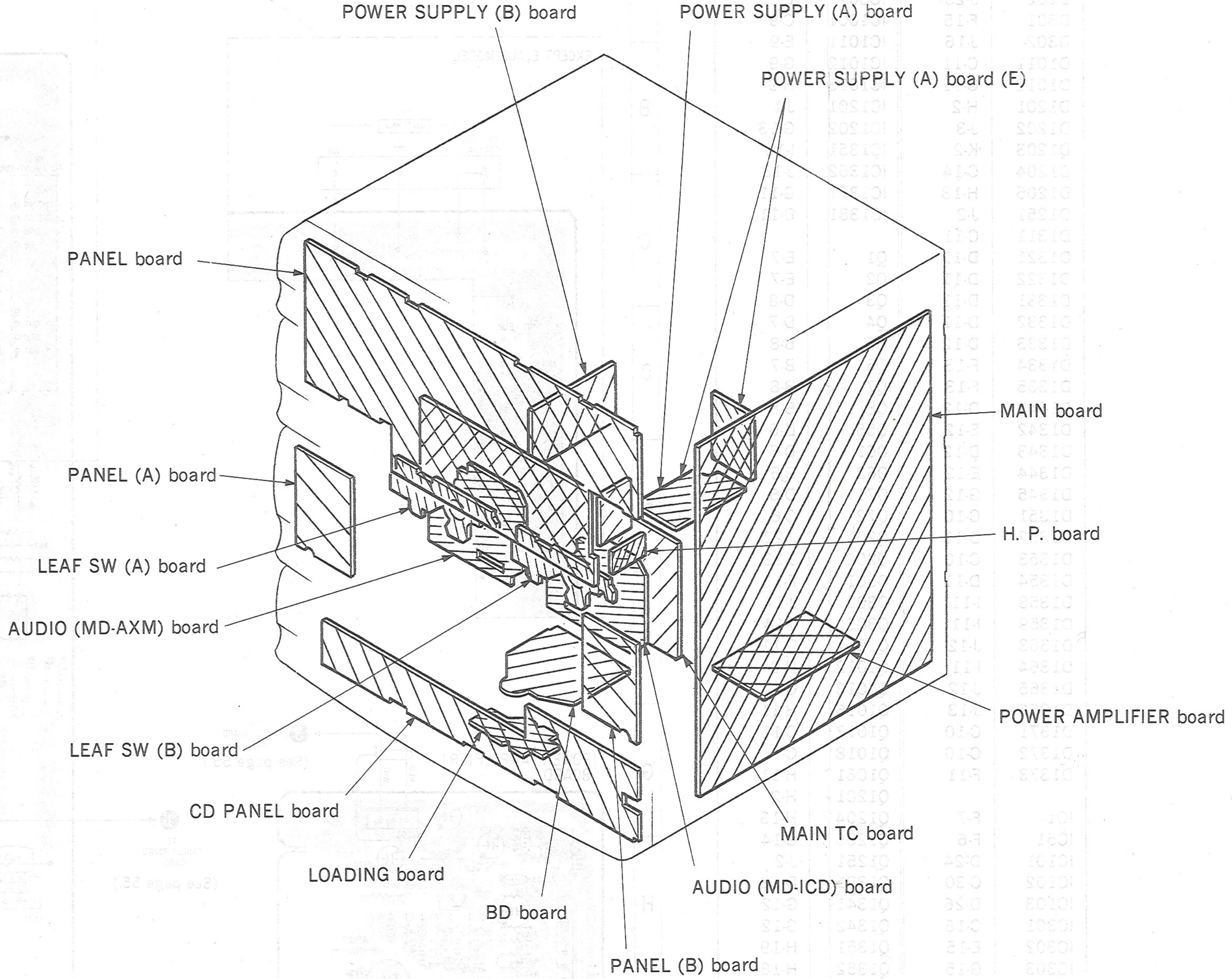

GEQ AMP
IC1102
DBFB
Q1101
RV1101
SURROUND
RV1102
DBFB
DBFB
Q1151
BUFFER
IC1101
Q1102
RV1109
VOLUME
(INCLUDING VOL MOTOR)
Q1152
POWER AMP
IC1201
OVER LOAD DET
Q1201,1251
Q1251
RY1201
J1201
SURROUND SPEAKER
(IMPEDANCE USE 16Ω)
(L)
(R)
CN1201
SPEAKER
(IMPEDANCE USE 6-16Ω)
CNJ1201
HEADPHONES
FL DRIVE
IC1501
R IN
L IN
A2-A13
G7-G1
2-13
25-31
LED
D671,1160-1164
ON/STANDBY
FLAT
DANCE
POPS
ROCK
CLASSIC
21-32
5-11
P2-P13
G7-G1
FLUORESCENT INDICATOR TUBE
(SPECTRUM ANALYZER)
FL1501
LED SWITCH
IC1104
Q671,1121,1143-1145
FLUORESCENT INDICATOR TUBE
FL601
G1-G9
S0-S12
4-12
20-32
PROTECT SWITCH
Q1204
OVER LOAD DET
OFF SET DET
AC OFF DET
F/F
VCC ON MUTE
PROTECTOR
IC1202
RELAY
1-7,79,80
1G-9G
(G1-G9)
64-70,72-77
S8-S20
(S0-S12)
CD,CLOCK
DISPLAY DATA
Q-3
AUB,OUT
AUB,IN
AUB CONTROL
Q602
AUB
DPCLK
DPDAT
Q-3
TO DECK SECTION
(See page 18.)
TO CD SECTION
(See page 20.)
CD,BUSY
CD,BUSY
SYSTEM CONTROL
IC601
VOL,A
VOL,B
VOLUME MOTOR DRIVE
IC1103
VOL MOTOR
(SUPPLIED WITH RV1109)
VOL,LED
D1145
(VOLUME)
KEY IN
X1
X2
PHONO,LED
TUNER,LED
CD,LED
VIDEO,LED
TAPE,LED
X601
4.19MHz
LED
D1130-1134
VIDEO
PHONO
TUNER
CD
TAPE
D1321
D1322
SWITCH
Q1205
+12V
+12V REG.
Q1341
SWITCH
Q1342
POWER TRANSFORMER
T1301
F1302
D1311
+B
-B
F1301
D1341
D1343
-30V
-30V REG
Q1331
D1331
+UNREG
+5V REG.
IC1352
+5V
OUT
IN
F1304
D1351-1354
+7.5V
+7.5V REG.
Q1351
F1303
AC IN
CN1302
POWER SOURCE
IC1381
+12V REG.
AEP3,E2 MODEL
IN(+)
OUT
CONT
IN(-)
POWER ON/OFF SWITCH
Q1353
POWER CONTROL
IC1351
D1371
D1372
D1333
E MODEL
VOLTAGE SELECTOR
VS1301
AC IN
SWITCH
Q1017,1018
FL
-7.5V
-7.5V REG.
Q1352
-UNREG
+6V
OUT
RESET
+6V REG.
IC1371
STANDBY SWITCH
Q1016

5-4. CIRCUIT BOARDS LOCATION


POWER SUPPLY (B) board
POWE
PANEL board
PANEL (A) board
LEAF SW (A) board
AUDIO (MD-AXM) board
LEAF SW (B) board
CD PANEL board
LOADING board
BD board
AUDI
PANEL (B) boa


1
ER
NCE)
160)
J1201
DPHONES
R
C ON
UTE
6
7
D1321
D1322
SWITCH
Q1205
SWITCH
Q1342
D1341
D1343
F1302
POWER
TRANSFORMER
T1301
D1311
+B
F1301
-B
-30V
D1331
-30V REG
Q1331
F1304
D1351-1354
F1303
AC IN
D1371
D1372
D1333
POWER
N/OFF
WITCH
Q1353
FL
E MODEL
VOLTAGE
SELECTOR
VS1301
AC IN
WER
TROL
351
SWITCH
Q1017,1018
FL
OUT
RESET
IN
1
+6V REG.
IC1371

5-4. CIRCUIT BOARDS LOCATION


POWER SUPPLY (B) board
POWER SUPPLY (A) board
POWER SUPPLY (A) board (E)
PANEL board
MAIN board
PANEL (A) board
H. P. board
LEAF SW (A) board
AUDIO (MD-AXM) board
POWER AMPLIFIER board
LEAF SW (B) board
CD PANEL board
MAIN TC board
LOADING board
AUDIO (MD-ICD) board
BD board
PANEL (B) board

5-5. PRINTED WIRING BOARDS—CD/POWER/TUNER SECTION—

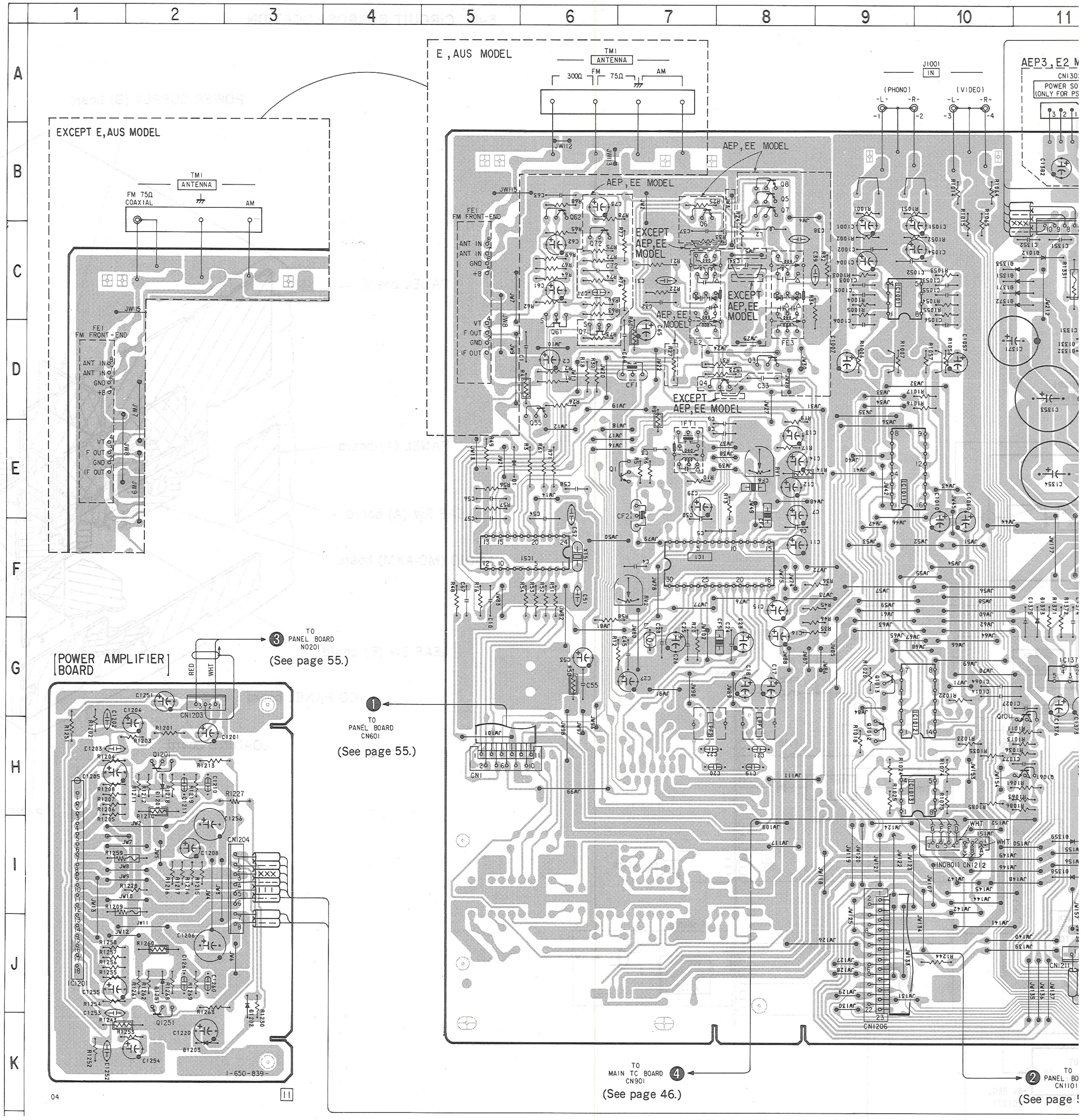
• Refer to page 41 for Semiconductor Lead Layouts.

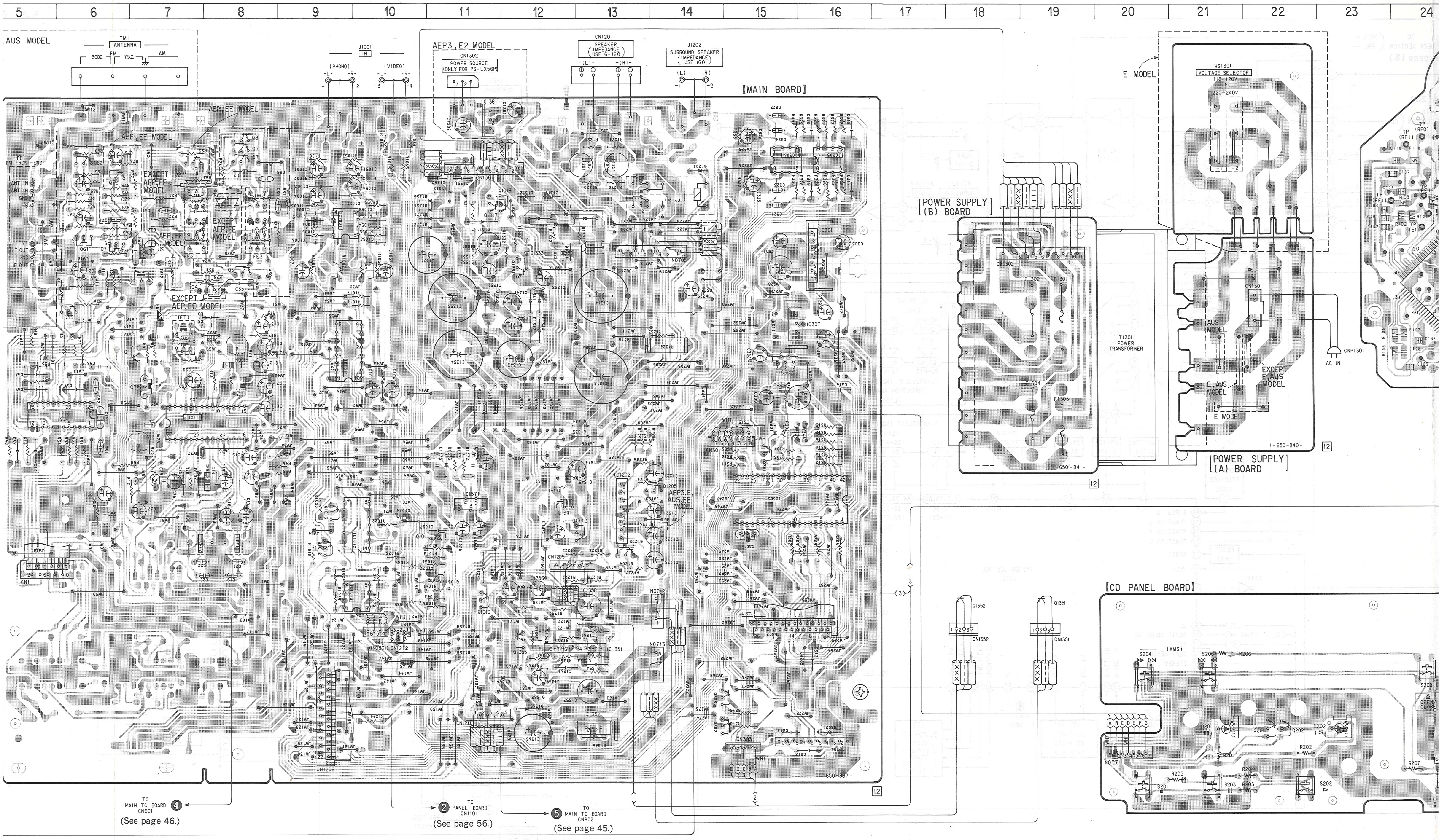
• Semiconductor Location

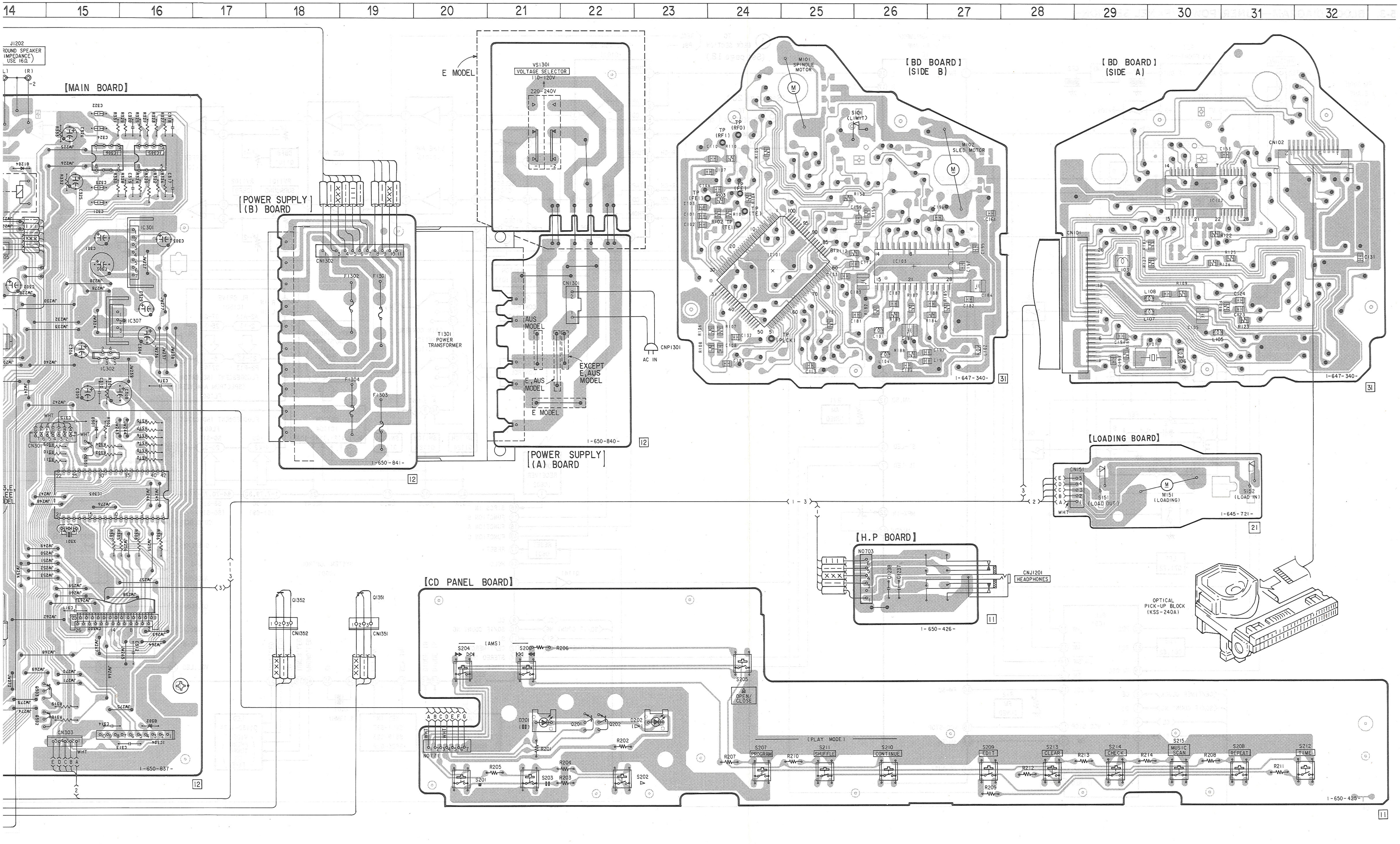
Ref. No.	Location	Ref. No.	Location
D1	E-5	IC305	B-16
D201	J-21	IC306	B-15
D202	J-23	IC307	E-16
D301	F-15	IC1001	C-9
D302	J-16	IC1011	E-9
D1011	C-11	IC1012	G-9
D1012	C-11	IC1013	H-9
D1201	H-2	IC1201	J-1
D1202	J-3	IC1202	G-13
D1203	K-2	IC1351	I-13
D1204	C-14	IC1352	J-13
D1205	H-13	IC1371	G-11
D1251	J-2	IC1381	B-11
D1311	C-11		
D1321	D-11	Q1	E-7
D1322	D-11	Q2	E-7
D1331	D-11	Q3	D-8
D1332	D-11	Q4	D-7
D1333	D-12	Q5	B-8
D1334	F-13	Q6	B-7
D1335	F-13	Q7	B-8
D1341	D-12	Q8	B-8
D1342	E-12	Q55	D-6
D1343	D-12	Q61	D-6
D1344	E-12	Q62	B-6
D1345	G-12	Q71	D-6
D1351	C-10	Q72	C-6
D1352	D-11	Q201	J-22
D1353	C-10	Q202	J-22
D1354	D-11	Q301	F-15
D1358	I-11	Q302	J-14
D1359	I-11	Q303	J-14
D1363	J-12	Q1011	G-11
D1364	I-11	Q1012	H-9
D1365	J-12	Q1013	G-9
D1366	J-13	Q1016	H-11
D1371	C-10	Q1017	C-11
D1372	C-10	Q1018	C-11
D1373	F-11	Q1061	H-11
		Q1201	H-2
IC1	F-7	Q1204	H-13
IC51	F-6	Q1205	G-14
IC101	D-24	Q1251	J-2
IC102	C-30	Q1331	D-12
IC103	D-26	Q1341	G-12
IC301	C-16	Q1342	G-12
IC302	E-15	Q1351	H-19
IC303	G-15	Q1352	H-18
IC304	J-16	Q1353	I-12

Note :

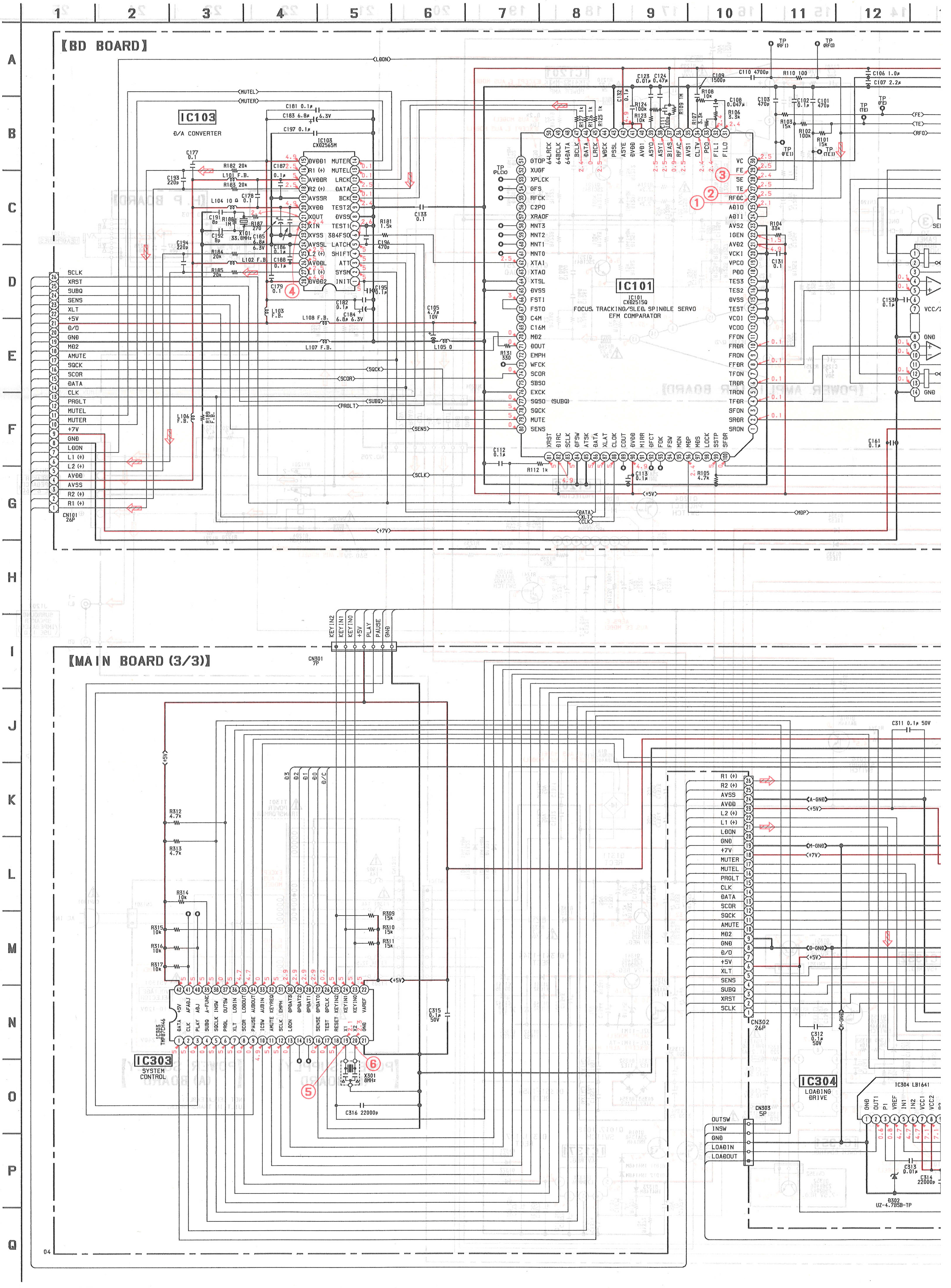
- ○— : parts extracted from the component side.
- ● : Through hole.
- [ ]← indicates side identified with part number.
- ▨ : Pattern on the side which is seen.
  (The other layer's patterns are not indicated.)
- Abbreviations
  EE : East European model
  AUS : Australian model
  AEP3 : AEP unit with PHONO SOURCE
  (Made in Indonesia)
  E2 : AC 120V Area model


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
E , AUS MODEL
EXCEPT E, AUS MODEL
TM1
ANTENNA
FM 75Ω COAXIAL
AM
300Ω
75Ω
AEP, EE MODEL
EXCEPT AEP, EE MODEL
FE1
FM FRONT-END
J1001
IN
(PHONO)
(VIDEO)
AEP3, E2 M
CN130
POWER SO
(ONLY FOR PS
IC1
IC51
CN1
CN1206
CN1212
CN1203
CN1204
POWER AMPLIFIER BOARD
RED
WHT
③ TO PANEL BOARD NO201
(See page 55.)
① TO PANEL BOARD CN601
(See page 55.)
④ TO MAIN TC BOARD CN901
(See page 46.)
② TO PANEL BO CN1101
(See page
1-650-839-
11
04

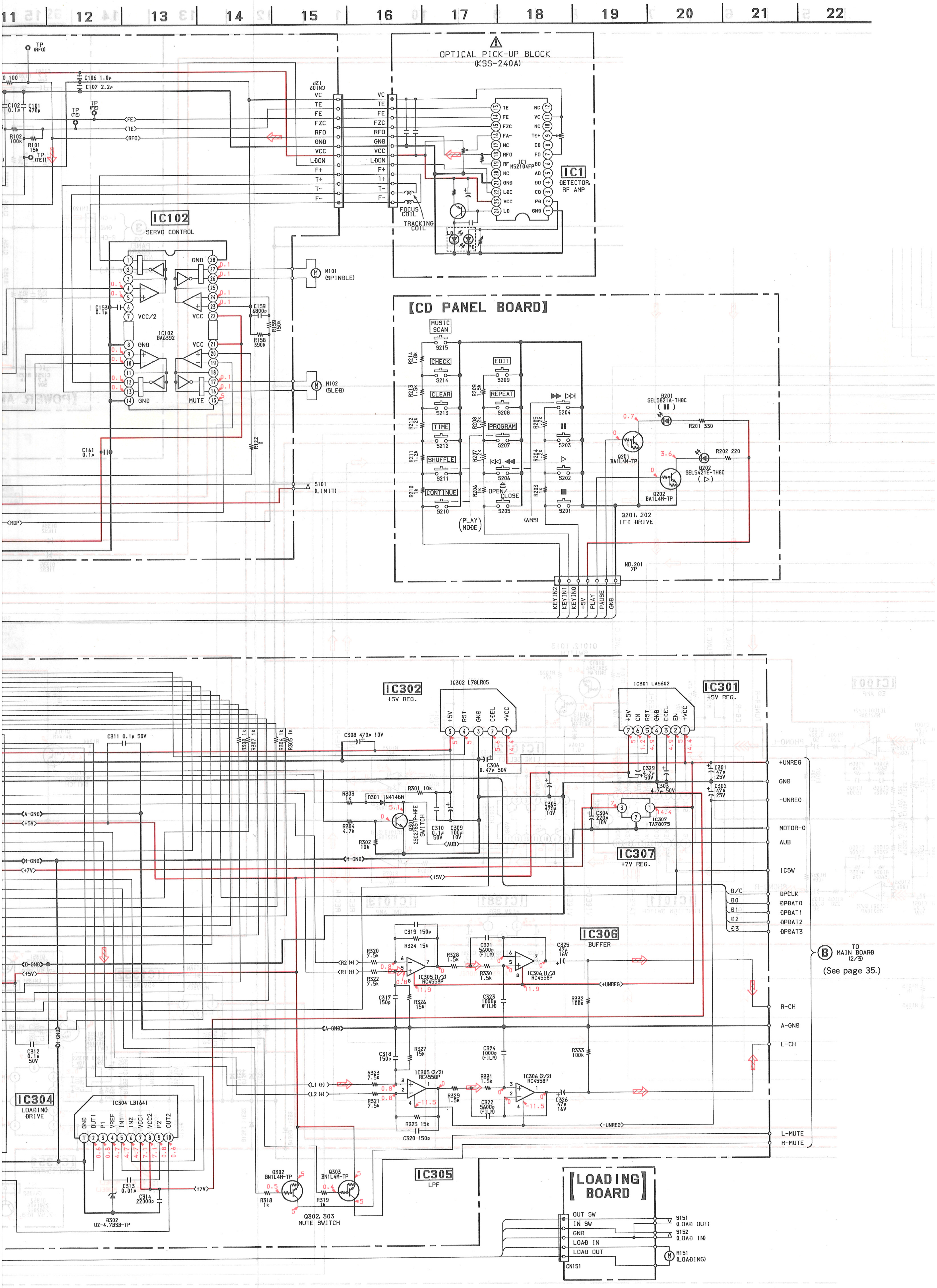

5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
, AUS MODEL
TM1
ANTENNA
300Ω FM 75Ω AM
J1001
IN
(PHONO)
(VIDEO)
AEP3, E2 MODEL
CN1302
POWER SOURCE
(ONLY FOR PS-LX56P)
CN1201
SPEAKER
(IMPEDANCE USE 6-16Ω)
J1202
SURROUND SPEAKER
(IMPEDANCE USE 16Ω)
[MAIN BOARD]
AEP, EE MODEL
EXCEPT AEP, EE MODEL
FE1 FM FRONT-END
[POWER SUPPLY (B) BOARD]
CN1302
F1302
F1301
F1304
F1303
T1301 POWER TRANSFORMER
1-650-841-
12
E MODEL
VS1301
VOLTAGE SELECTOR
110-120V
220-240V
CN1301
AUS MODEL
E, AUS MODEL
EXCEPT E, AUS MODEL
E MODEL
CNP1301
AC IN
1-650-840-
12
[POWER SUPPLY (A) BOARD]
AEP3, E, AUS, EE MODEL
1-650-837-
12
Q1352
CN1352
Q1351
CN1351
[CD PANEL BOARD]
S204
(AMS)
S206
R206
S205
OPEN/CLOSE
D201
Q201
Q202
D202
R202
R201
R205
R204
R203
S201
S203
S202
R207
N077
TP (RF1)
TP (RFO)
TP (FE1)
TP (TE1)
TO MAIN TC BOARD ④ CN901
(See page 46.)
TO ② PANEL BOARD CN1101
(See page 56.)
TO ⑤ MAIN TC BOARD CN902
(See page 45.)

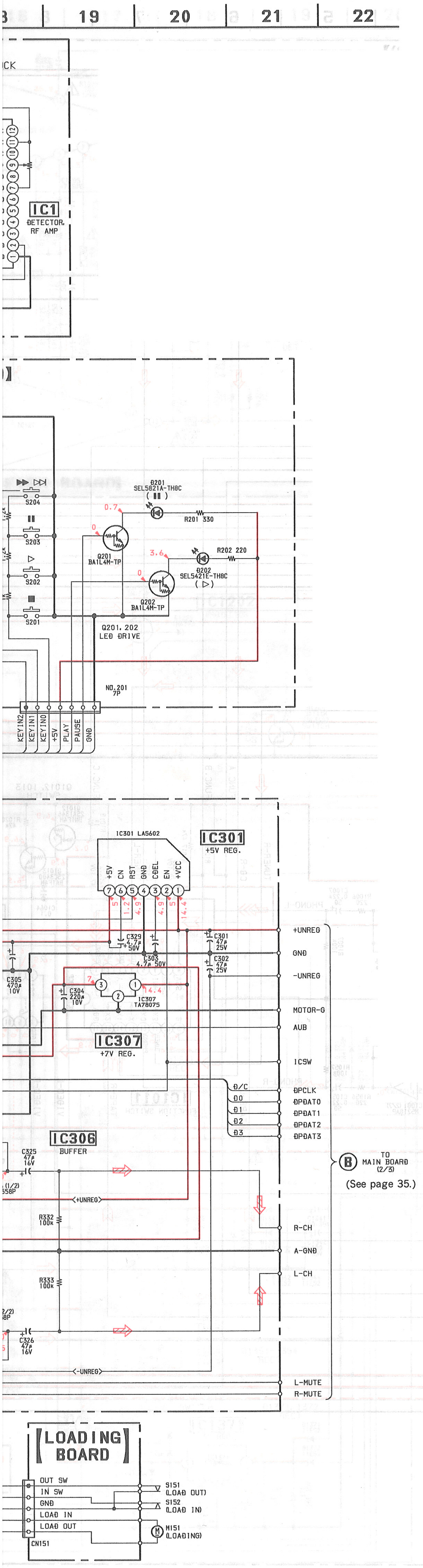

14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
J1202
SURROUND SPEAKER (IMPEDANCE USE 16Ω)
[MAIN BOARD]
IC301
IC302
IC307
CN301
CN302
CN303
1-650-837-
12
[POWER SUPPLY (B) BOARD]
CN1302
F1301
F1302
F1303
F1304
1-650-841-
12
T1301 POWER TRANSFORMER
E MODEL
VS1301 VOLTAGE SELECTOR
110-120V
220-240V
CN1301
AUS MODEL
EXCEPT E, AUS MODEL
E, AUS MODEL
E MODEL
CNP1301
AC IN
1-650-840-
12
[POWER SUPPLY (A) BOARD]
[BD BOARD] (SIDE B)
M101 SPINDLE MOTOR
M102 SLED MOTOR
S101 (LIMIT)
TP (RFO)
TP (RFI)
TP (FE)
TP (FEI)
TP (TE)
TP (TEI)
TP (PLCK)
IC101
IC103
1-647-340-
31
[BD BOARD] (SIDE A)
CN101
CN102
IC102
1-647-340-
31
[LOADING BOARD]
CN151
S151 (LOAD OUT)
M151 (LOADING)
S152 (LOAD IN)
1-645-721-
21
[H.P BOARD]
N0703
CNJ1201 HEADPHONES
1-650-426-
11
OPTICAL PICK-UP BLOCK (KSS-240A)
Q1352
CN1352
Q1351
CN1351
[CD PANEL BOARD]
(AMS)
S204
S206
S205
OPEN/CLOSE
D201
Q201
Q202
D202
S201
S203
S202
(PLAY MODE)
S207 PROGRAM
S211 SHUFFLE
S210 CONTINUE
S209 EDIT
S213 CLEAR
S214 CHECK
S215 MUSIC SCAN
S208 REPEAT
S212 TIME
N0771
1-650-425-
11

5-6. SCHEMATIC DIAGRAM—CD SECTION— • Refer to page 58 for IC Block Diagrams.

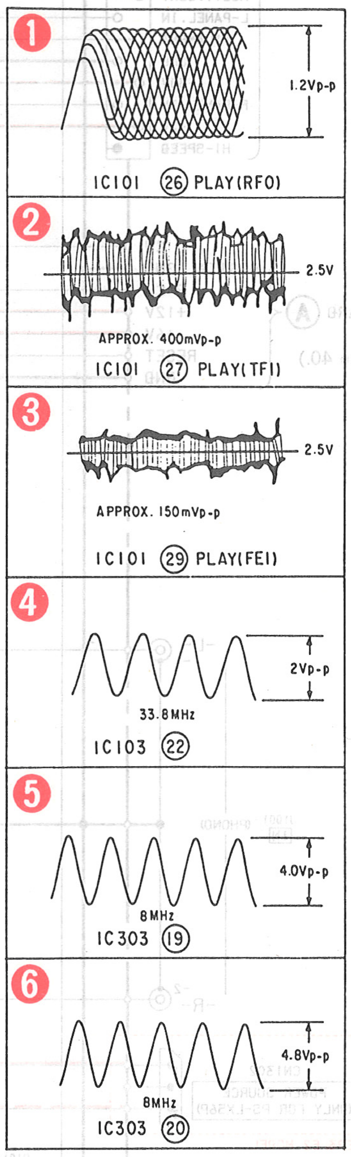


【BD BOARD】
IC103
D/A CONVERTER
IC103 CXD2565M
IC101
IC101 CXD2515Q
FOCUS, TRACKING/SLED, SPINDLE SERVO
EFM COMPARATOR
CN101 26P
SCLK
XRST
SUBQ
SENS
XLT
+5V
D/O
GND
MD2
AMUTE
SQCK
SCOR
DATA
CLK
PRGLT
MUTEL
MUTER
+7V
LDON
L1 (+)
L2 (+)
AVDD
AVSS
R2 (+)
R1 (+)
X101 33.8MHz
TP (PLCK)
TP (RFI)
TP (RFO)
TP (TE)
TP (FE)
TP (FEI)
TP (TEI)
【MAIN BOARD (3/3)】
CN301 7P
KEYIN2
KEYIN1
KEYIN0
+5V
PLAY
PAUSE
GND
IC303
SYSTEM CONTROL
IC303 TMP87CH46
X301 8MHz
C316 22000p
CN302 26P
CN303 5P
OUTSW
INSW
GND
LOADIN
LOADOUT
IC304
LOADING DRIVE
IC304 LB1641
D302 UZ-4.7BSB-TP
①
②
③
④
⑤
⑥
1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q


11
12
13
14
15
16
17
18
19
20
21
22
OPTICAL PICK-UP BLOCK
(KSS-240A)
IC1
DETECTOR, RF AMP
IC1 M52104FP
FOCUS COIL
TRACKING COIL
CN102
VC
TE
FE
FZC
RFO
GND
VCC
LDON
F+
T+
T-
F-
TP (RFO)
TP (TE)
TP (FE)
TP (TEI)
C106 1.0μ
C107 2.2μ
C102 0.1μ
C101 470p
R102 100k
R101 15k
IC102
SERVO CONTROL
IC102 BA6392
GND
VCC/2
VCC
MUTE
C153 0.1μ
C159 6800p
R159 150k
R158 390k
R122 0
C161 0.1μ
M101 (SPINDLE)
M102 (SLED)
S101 (LIMIT)
MDP
[CD PANEL BOARD]
MUSIC SCAN
S215
CHECK
S214
CLEAR
S213
TIME
S212
SHUFFLE
S211
CONTINUE
S210
EDIT
S209
REPEAT
S208
PROGRAM
S207
S206
OPEN/CLOSE
S205
S204
S203
S202
S201
(PLAY MODE)
(AMS)
R214 1.8k
R213 1.5k
R212 1.2k
R211 1.2k
R210 1k
R209 1.5k
R208 1.2k
R207 1.2k
R206 1k
R205 1.2k
R204 1.2k
R203 1k
D201 SEL5821A-TH8C
R201 330
Q201 BA1L4M-TP
D202 SEL5421E-TH8C
R202 220
Q202 BA1L4M-TP
Q201, 202 LED DRIVE
NO.201 7P
KEYIN2
KEYIN1
KEYIN0
+5V
PLAY
PAUSE
GND
IC302
+5V REG.
IC302 L78LR05
RST
CDEL
+VCC
IC301
+5V REG.
IC301 LA5602
CN
EN
C308 470μ 10V
C311 0.1μ 50V
R308 1k
R307 1k
R306 1k
R305 1k
C306 0.47μ 50V
R303 1k
D301 1N4148M
R301 10k
R304 4.7k
R302 10k
Q301 2SC2785-HFE SWITCH
C310 0.1μ 50V
C309 100μ 10V
AUB
C329 4.7μ 50V
C303 4.7μ 50V
C305 470μ 10V
C304 220μ 10V
IC307 TA78075
IC307
+7V REG.
C301 47μ 25V
C302 47μ 25V
+UNREG
GND
-UNREG
MOTOR-G
AUB
ICSW
D/C
D0
D1
D2
D3
DPCLK
DPDATO
DPDAT1
DPDAT2
DPDAT3
B TO MAIN BOARD (2/3)
(See page 35.)
R-CH
A-GND
L-CH
L-MUTE
R-MUTE
A-GND
+5V
M-GND
+7V
D-GND
IC306
BUFFER
C319 150p
R324 15k
R320 7.5k
R322 7.5k
R328 1.5k
C321 5600p (FILM)
R330 1.5k
IC305 (1/2) RC4558P
IC306 (1/2) RC4558P
C325 47μ 16V
C317 150p
R326 15k
C323 1000p (FILM)
R332 100k
C318 150p
R327 15k
C324 1000p (FILM)
R333 100k
R323 7.5k
R321 7.5k
IC305 (2/2) RC4558P
R331 1.5k
R329 1.5k
IC306 (2/2) RC4558P
C322 5600p (FILM)
C326 47μ 16V
R325 15k
C320 150p
R2 (+)
R1 (+)
L1 (+)
L2 (+)
UNREG
C312 0.1μ 50V
IC304
LOADING DRIVE
IC304 LB1641
OUT1
P1
VREF
IN1
IN2
VCC1
VCC2
P2
OUT2
C313 0.01μ
C314 22000p
D302 UZ-4.7BSB-TP
Q302 BN1L4M-TP
Q303 BN1L4M-TP
R318 1k
R319 1k
Q302, 303 MUTE SWITCH
IC305
LPF
LOADING BOARD
OUT SW
IN SW
LOAD IN
LOAD OUT
CN151
S151 (LOAD OUT)
S152 (LOAD IN)
M151 (LOADING)


19
20
21
22
IC1
DETECTOR, RF AMP
D201 SEL5821A-TH8C
(II)
R201 330
0.7
0
Q201 BA1L4M-TP
3.6
R202 220
D202 SEL5421E-TH8C
(▷)
0
Q202 BA1L4M-TP
Q201, 202 LED DRIVE
S204
S203
S202
S201
NO.201 7P
KEYIN2
KEYIN1
KEYIN0
+5V
PLAY
PAUSE
GND
IC301 LA5602
IC301
+5V REG.
+5V
CN
RST
GND
CDEL
EN
+VCC
5
1.2
4.9
4.9
5
14.4
C329 4.7μ 50V
C303 4.7μ 50V
C301 47μ 25V
C302 47μ 25V
C305 470μ 10V
C304 220μ 10V
7
14.4
IC307 TA78075
IC307
+7V REG.
IC306
BUFFER
C325 47μ 16V
R332 100k
R333 100k
C326 47μ 16V
(+UNREG)
(-UNREG)
+UNREG
GND
-UNREG
MOTOR-G
AUB
ICSW
D/C
D0
D1
D2
D3
DPCLK
DPDAT0
DPDAT1
DPDAT2
DPDAT3
R-CH
A-GND
L-CH
L-MUTE
R-MUTE
B
TO MAIN BOARD (2/3)
(See page 35.)
LOADING BOARD
OUT SW
IN SW
GND
LOAD IN
LOAD OUT
CN151
S151 (LOAD OUT)
S152 (LOAD IN)
M151 (LOADING)

● Waveforms



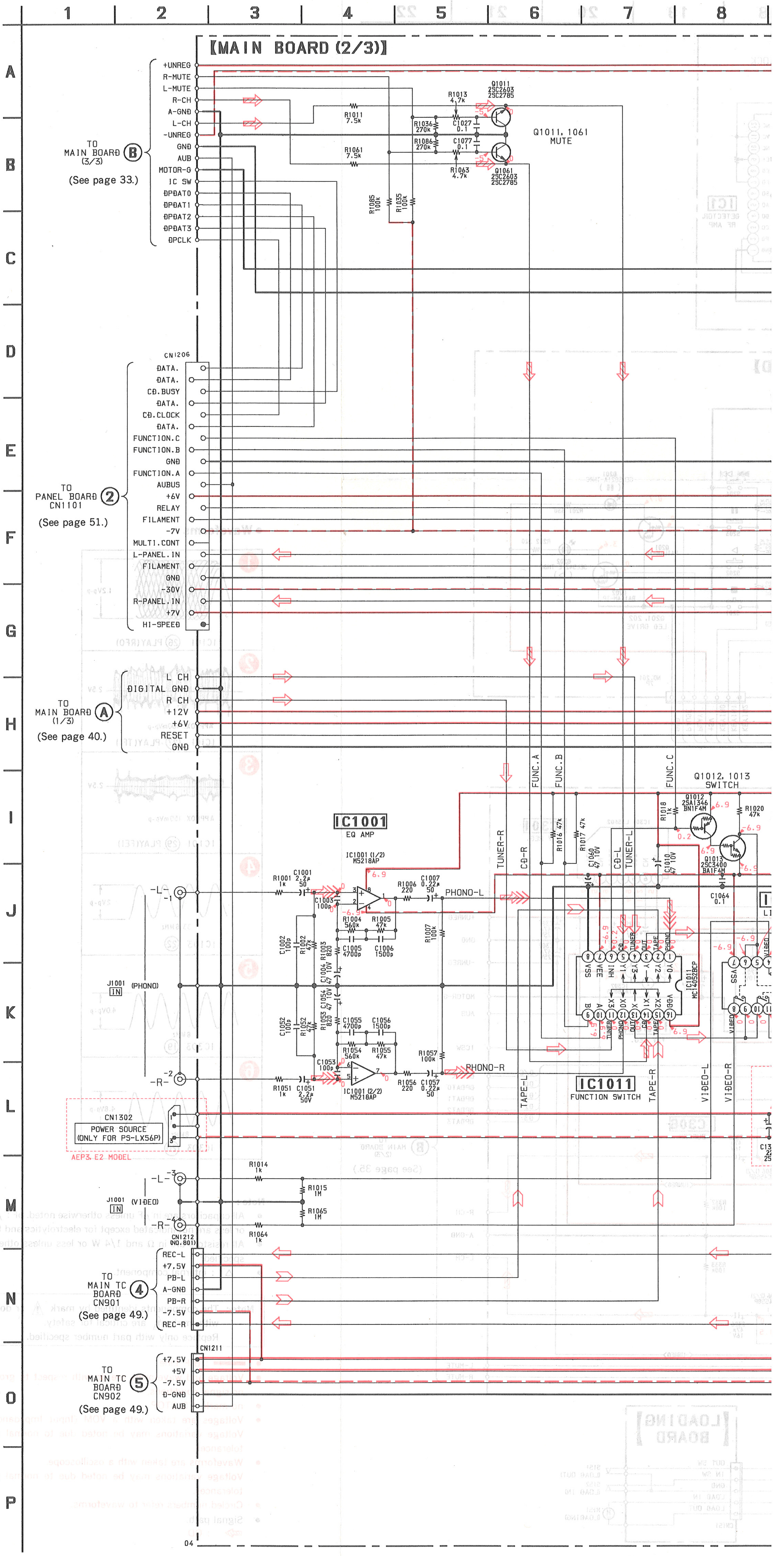
Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ▬ : B+ Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark: CD STOP
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

5-7. SCHEMATIC DIAGRAM—POWER SECTION— ● Refer to page 58 for IC Block Diagrams.

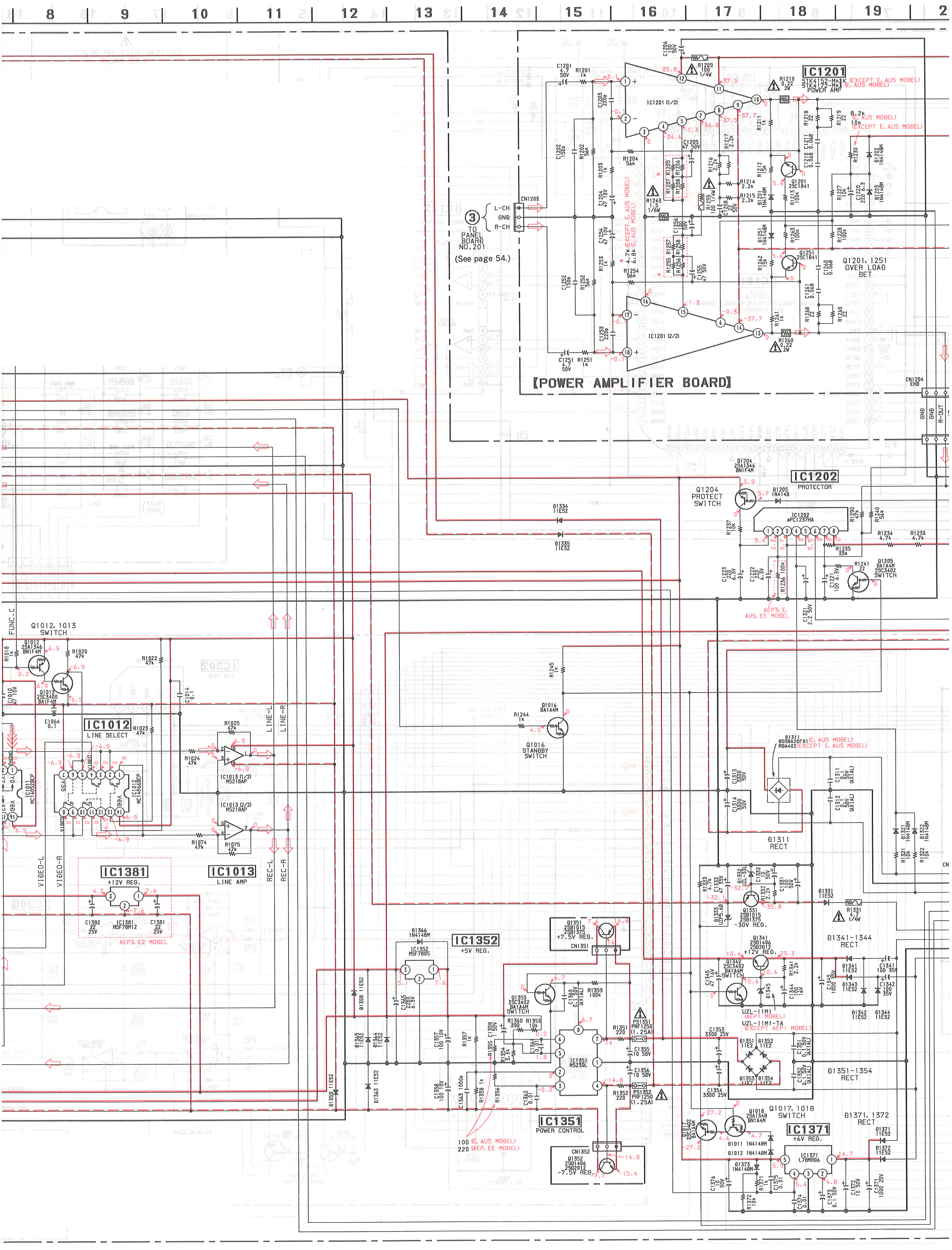

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
[MAIN BOARD (2/3)]
TO MAIN BOARD Ⓑ (3/3)
(See page 33.)
+UNREG
R-MUTE
L-MUTE
R-CH
A-GND
L-CH
-UNREG
GND
AUB
MOTOR-G
IC SW
DPDAT0
DPDAT1
DPDAT2
DPDAT3
DPCLK
R1011 7.5k
R1061 7.5k
R1013 4.7k
R1063 4.7k
R1036 270k
R1086 270k
C1027 0.1
C1077 0.1
Q1011 2SC2603 2SC2785
Q1061 2SC2603 2SC2785
Q1011, 1061 MUTE
R1085 100k
R1035 100k
CN1206
TO PANEL BOARD ② CN1101
(See page 51.)
DATA.
DATA.
CD.BUSY
DATA.
CD.CLOCK
DATA.
FUNCTION.C
FUNCTION.B
GND
FUNCTION.A
AUBUS
+6V
RELAY
FILAMENT
-7V
MULTI.CONT
L-PANEL.IN
FILAMENT
GND
-30V
R-PANEL.IN
+7V
HI-SPEED
TO MAIN BOARD Ⓐ (1/3)
(See page 40.)
L CH
DIGITAL GND
R CH
+12V
+6V
RESET
GND
FUNC.A
FUNC.B
FUNC.C
Q1012, 1013 SWITCH
Q1012 2SA1346 BN1F4M
Q1013 2SC3400 BA1F4M
R1018 1k
R1020 47k
R1016 47k
R1017 47k
C1060 47 10V
C1010 47 10V
C1064 0.1
IC1001 EQ AMP
IC1001 (1/2) M5218AP
IC1001 (2/2) M5218AP
R1001 1k
C1001 2.2μ 50
C1003 100p
R1006 220
C1007 0.22μ 50
PHONO-L
R1004 560k
R1005 47k
C1005 4700p
C1006 1500p
R1007 100k
C1002 100p
R1002 47k
R1003 820
C1004 47 10V
C1054 47 10V
R1053 820
C1052 100p
R1052 47k
C1055 4700p
C1056 1500p
R1054 560k
R1055 47k
R1057 100k
C1053 100p
R1051 1k
C1051 2.2μ 50V
R1056 220
C1057 0.22μ 50
PHONO-R
J1001 (PHONO) IN
-L- -1
-R- -2
TUNER-R
CD-R
CD-L
TUNER-L
TAPE-R
TAPE-L
VIDEO-L
VIDEO-R
IC1011 FUNCTION SWITCH
IC1011 MC14052BCP
CN1302
POWER SOURCE (ONLY FOR PS-LX56P)
AEP3, E2 MODEL
R1014 1k
R1015 1M
R1065 1M
R1064 1k
J1001 (VIDEO) IN
-L- -3
-R- -4
CN1212 (NO.801)
TO MAIN TC BOARD ④ CN901
(See page 49.)
REC-L
+7.5V
PB-L
A-GND
PB-R
-7.5V
REC-R
CN1211
TO MAIN TC BOARD ⑤ CN902
(See page 49.)
+7.5V
+5V
-7.5V
D-GND
AUB
6.9
-6.9
0.2

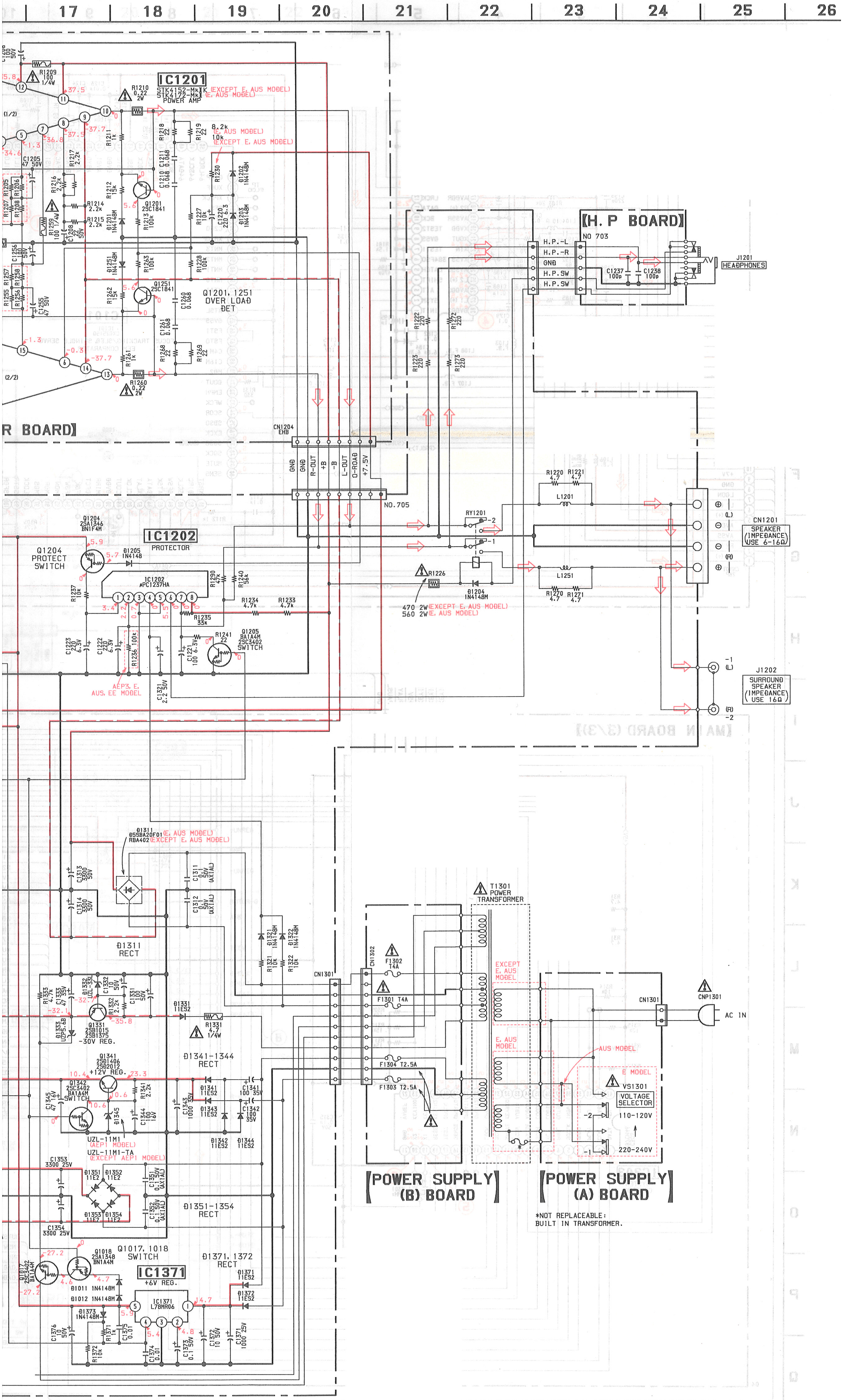
Note:

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

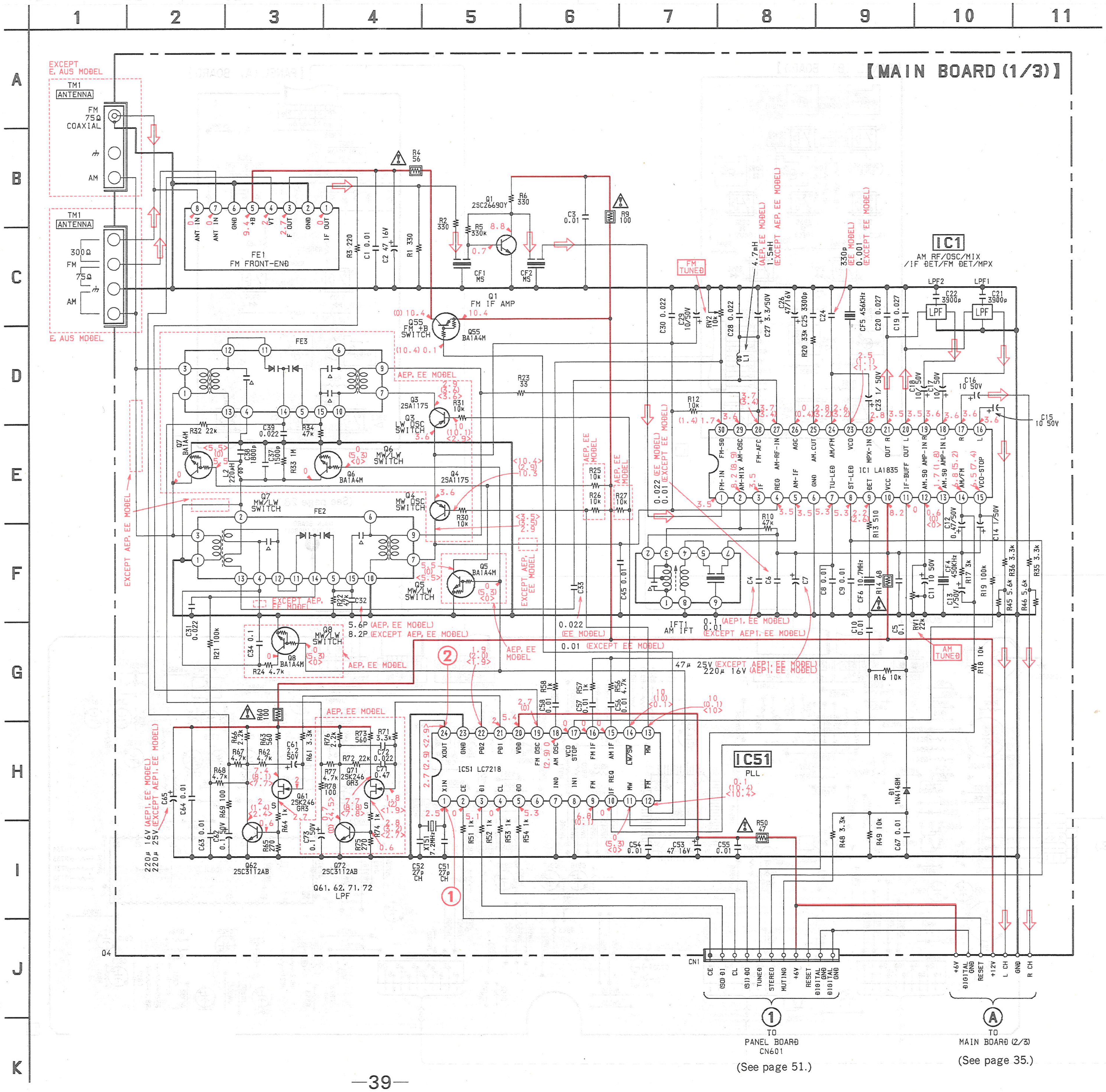
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- -▭-: nonflammable resistor.
- -▭-: fusible resistor.
- ▬▬ : B+ Line
- ▬ ▬ : B− Line
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - ⇨ : FM
  - ⊳ : PB (DECK A)
  - ⇛ : CD
  - ⋙ : PHONO/VIDEO
- Abbreviations
  - EE : East European model
  - AUS : Australian model
  - AEP3 : AEP unit with PHONO SOURCE (Made in Indonesia)
  - E2 : AC 120V Area model


8
9
10
11
12
13
14
15
16
17
18
19
IC1201
STK4152-MkIK (EXCEPT E, AUS MODEL)
STK4172-MkI (E, AUS MODEL)
POWER AMP
IC1201 (1/2)
IC1201 (2/2)
Q1201, 1251
OVER LOAD
DET
③ TO PANEL BOARD NO. 201
(See page 54.)
CN1203
L-CH
GND
R-CH
【POWER AMPLIFIER BOARD】
CN1204
GND
GND
R-OUT
IC1202
PROTECTOR
IC1202
μPC1237HA
Q1204
PROTECT
SWITCH
Q1205
2SC3402
SWITCH
AEP3, E,
AUS, EE MODEL
Q1012, 1013
SWITCH
FUNC.C
IC1012
LINE SELECT
IC1012
MC14066BCP
IC1011
MC14052BCP
IC1013 (1/2)
M5218AP
IC1013 (2/2)
M5218AP
IC1013
LINE AMP
LINE-L
LINE-R
REC-L
REC-R
VIDEO-L
VIDEO-R
IC1381
+12V REG.
IC1381
M5F78M12
AEP3, E2 MODEL
Q1016
STANDBY
SWITCH
D1311
05BA20F01 (E, AUS MODEL)
RBA402 (EXCEPT E, AUS MODEL)
D1311
RECT
Q1331
2SB1015
2SB1375
-30V REG.
D1331
11ES2
D1341-1344
RECT
Q1341
2SD1406
2SD2012
+12V REG.
Q1342
2SC3402
SWITCH
UZL-11M1
(AEP1 MODEL)
UZL-11M1-TA
(EXCEPT AEP1 MODEL)
IC1352
+5V REG.
IC1352
M5F7805
Q1351
2SB1015
2SB1375
+7.5V REG.
CN1351
Q1353
2SC3402
SWITCH
IC1351
M5230L
IC1351
POWER CONTROL
PS1351
PRF1250
(1.25A)
PS1352
PRF1250
(1.25A)
CN1352
Q1352
2SD1406
2SD2012
-7.5V REG.
100 (E, AUS MODEL)
220 (AEP, EE MODEL)
D1351-1354
RECT
Q1017, 1018
SWITCH
IC1371
+6V REG.
IC1371
L78M06
D1371, 1372
RECT

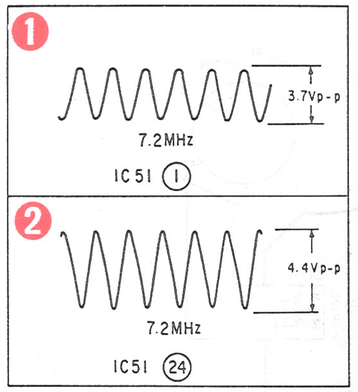

17
18
19
20
21
22
23
24
25
26
IC1201
STK4152-MkII (EXCEPT E, AUS MODEL)
STK4172-MkII (E, AUS MODEL)
POWER AMP
R1209 100 1/4W
R1210 0.22 2W
8.2k (E, AUS MODEL)
10k (EXCEPT E, AUS MODEL)
C1205 47 50V
Q1201 2SC1841
Q1251 2SC1841
Q1201, 1251 OVER LOAD DET
R1260 0.22 2W
R BOARD]
CN1204 EH8
GND
GND
R-OUT
+B
-B
L-OUT
O-ROAD
+7.5V
NO.705
[H.P BOARD]
NO 703
H.P.-L
H.P.-R
GND
H.P.SW
H.P.SW
C1237 100p
C1238 100p
J1201 HEADPHONES
Q1204 2SA1346 BN1F4M
Q1204 PROTECT SWITCH
D1205 1N4148
IC1202 PROTECTOR
IC1202 μPC1237HA
R1234 4.7k
R1233 4.7k
R1235 33k
R1241 22
Q1205 BA1A4M 2SC3402 SWITCH
AEP3, E, AUS, EE MODEL
RY1201
R1226
D1204 1N4148M
470 2W (EXCEPT E, AUS MODEL)
560 2W (E, AUS MODEL)
R1220 4.7
R1221 4.7
L1201
L1251
R1270 4.7
R1271 4.7
CN1201
SPEAKER (IMPEDANCE USE 6-16Ω)
J1202
SURROUND SPEAKER (IMPEDANCE USE 16Ω)
[MAIN BOARD (3/3)]
D1311 05SBA20F01 (E, AUS MODEL)
RBA402 (EXCEPT E, AUS MODEL)
C1313 3300 50V
C1314 3300 50V
C1311 0.1 50V (AXIAL)
C1312 0.1 50V (AXIAL)
D1311 RECT
D1321 1N4148M
D1322 1N4148M
R1321 10k
R1322 10k
CN1301
CN1302
Q1331 2SB1015 2SB1375 -30V REG.
D1331 11ES2
R1331 4.7 1/4W
D1333 UZP5.6B
Q1341 2SD1406 2SD2012 +12V REG.
Q1342 2SC3402 BA1A4M SWITCH
D1341-1344 RECT
C1341 100 35V
C1342 100 35V
C1343 1000 35V
UZL-11M1 (AEP1 MODEL)
UZL-11M1-TA (EXCEPT AEP1 MODEL)
C1353 3300 25V
C1354 3300 25V
D1351 11E2
D1352 11E2
D1353 11E2
D1354 11E2
D1351-1354 RECT
Q1017 2SC3402 BA1A4M
Q1018 2SA1348 BN1A4M
Q1017, 1018 SWITCH
IC1371 +6V REG.
IC1371 L78NR06
D1371, 1372 RECT
D1371 11ES2
D1372 11ES2
D1011 1N4148M
D1012 1N4148M
D1373 1N4148M
C1371 1000 25V
C1372 10 50V
C1373 0.1 50V
C1374 0.01
C1376 10 50V
F1302 T4A
F1301 T4A
F1304 T2.5A
F1303 T2.5A
T1301 POWER TRANSFORMER
EXCEPT E, AUS MODEL
E, AUS MODEL
AUS MODEL
E MODEL
VS1301 VOLTAGE SELECTOR
110-120V
220-240V
CN1301
CNP1301
AC IN
[POWER SUPPLY (B) BOARD]
[POWER SUPPLY (A) BOARD]
*NOT REPLACEABLE: BUILT IN TRANSFORMER.

5-8. SCHEMATIC DIAGRAM—TUNER SECTION— • Refer to page 58 for IC Block Diagrams.



1 2 3 4 5 6 7 8 9 10 11
A B C D E F G H I J K
[MAIN BOARD (1/3)]
EXCEPT E, AUS MODEL
TM1 ANTENNA
FM 75Ω COAXIAL
AM
TM1 ANTENNA
300Ω FM
75Ω
AM
E, AUS MODEL
FE1 FM FRONT-END
ANT IN
GND
+B
VT
F OUT
IF OUT
Q1 2SC2669OY
FM IF AMP
CF1 MS
CF2 MS
Q55 FM +B SWITCH
Q55 BA1A4M
FE3
FE2
Q3 2SA1175
Q3 LW OSC SWITCH
Q4 2SA1175
Q4 MW OSC SWITCH
Q5 BA1A4M
Q5 MW/LW SWITCH
Q6 MW/LW SWITCH
Q6 BA1A4M
Q7 BA1A4M
Q7 MW/LW SWITCH
Q8 MW/LW SWITCH
Q8 BA1A4M
AEP, EE MODEL
EXCEPT AEP, EE MODEL
IC1 AM RF/OSC/MIX /IF DET/FM DET/MPX
IC1 LA1835
LPF2
LPF1
FM TUNED
AM TUNED
IFT1 AM IFT
IC51 PLL
IC51 LC7218
Q61, 62, 71, 72 LPF
Q61 2SK246 GR3
Q71 2SK246 GR3
Q62 2SC3112AB
Q72 2SC3112AB
X51 7.2MHz
D1 1N4148M
CN1
CE
(SO) DI
CL
(SI) DO
TUNED
STEREO
MUTING
+6V
RESET
DIGITAL GND
DIGITAL GND
+6V
DIGITAL RESET
+12V
L CH
GND
R CH
① TO PANEL BOARD CN601
(See page 51.)
Ⓐ TO MAIN BOARD (2/3)
(See page 35.)

• Waveforms



Note :

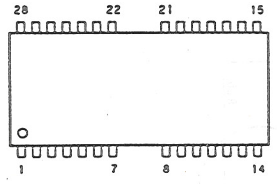
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

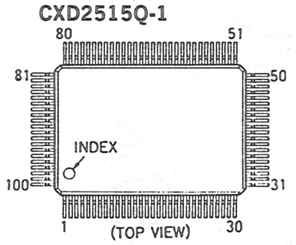
- ⊣▭⊢ : nonflammable resistor.
- ▬ : B+ Line
- ☐ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
  ( ): MW
  < >: LW
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
- Abbreviations
  EE : East European model
  AUS : Australian model
  AEP1 : AEP unit with no PHONO POWER SOURCE (Made in Malaysia)

5-9. SEMICONDUCTOR LEAD LAYOUTS

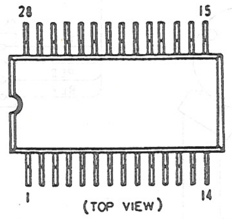
BA6392FP


28
22
21
15
1
7
8
14

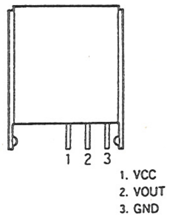
CXD2515Q-1


80
51
81
50
INDEX
100
31
1
30
(TOP VIEW)

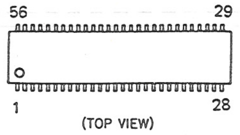
CXD2565M-1


28
15
1
14
(TOP VIEW)

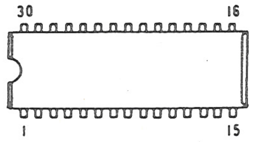
GP1U52XB


1 2 3
1. VCC
2. VOUT
3. GND

HA12171NT

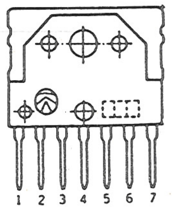

56
29
1
28
(TOP VIEW)

LA1835

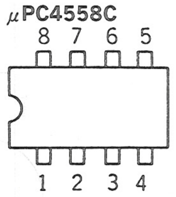


(Top view)

LA5602

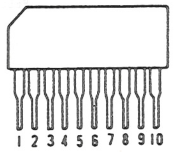


LB1639
μPC4558C

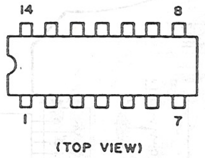


(Top view)

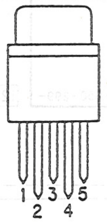
LB1641


1 2 3 4 5 6 7 8 9 10

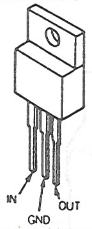
LC7218-ST
MC14066BCP
M5218AP
SN74HC00AN


14
8
1
7
(TOP VIEW)

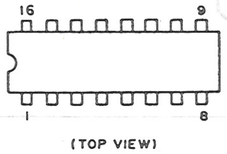
L78LR05D-MA



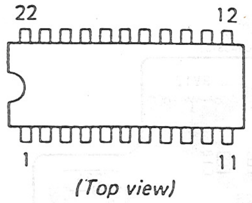
L78MR06
M5F78M07L
TA7805S



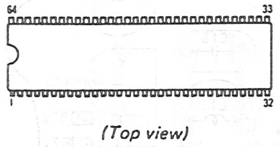
MC14052BCP


16
9
1
8
(TOP VIEW)

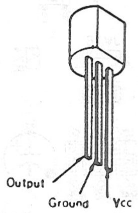
M5F78M12L


22
12
1
11
(Top view)

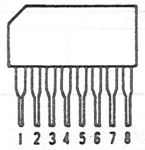
M50964-261FP


64
33
1
32
(Top view)

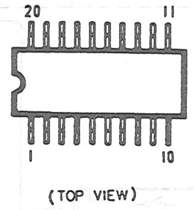
M51943BSL-TP


Output
Ground
Vcc

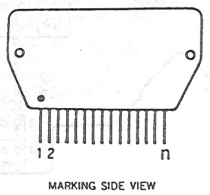
M5230L-A
μPC1237HA



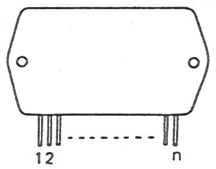
NJL5165K-B (HI)


20
11
1
10
(TOP VIEW)

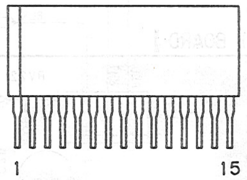
STK-4152MK2K


1 2
n
MARKING SIDE VIEW

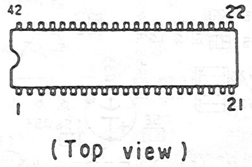
STK-4172MK2



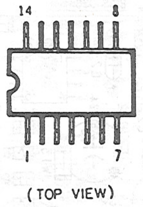
TA8242AK



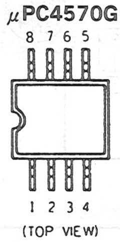
TMP87CH46N-4067


42
22
1
21
(Top view)

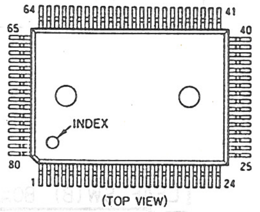
μPC1330GR-T1


14
8
1
7
(TOP VIEW)

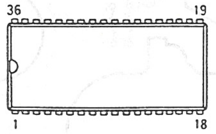
μPC4570G2


8 7 6 5
1 2 3 4
(TOP VIEW)

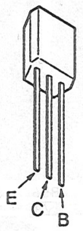
μPD78042GF-053-3B9


64
41
65
40
INDEX
80
25
1
24
(TOP VIEW)

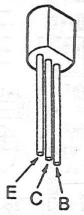
XR-1096



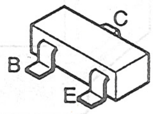
DTA114ES
DTA124ES
DTA144ES
DTC114ES
DTC124ES
DTC144ES
2SC2669-OY
2SC3622A-LK



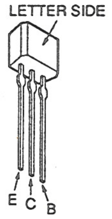
2SA1015-GR
2SB1068-L
2SC1841-PAFAEA
2SC2001TP-K1K2
2SC3112-B
2SD1616A-K



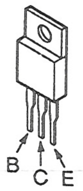
2SA1162-G



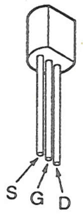
2SA1175-HFE
2SC2785-HFE


LETTER SIDE
E
C
B

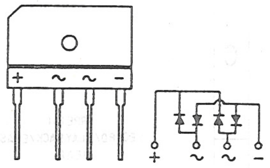
2SB1094-LK
2SD2012



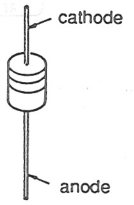
2SK246-GR3



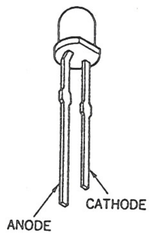
D3SBA20-4101
D5SBA20F01
RBA-402
RBV-602



UZ-4.7BSB
UZL-11M1
UZL-33L
UZP-5.6B
1N4148M
11ES2


cathode
anode

SEL5220S-TH8C
SEL5221S-TH8C
SEL5421E-TH8C
SEL5821A-TH8C


ANODE
CATHODE

5-10. PRINTED WIRING BOARDS—DECK SECTION— • Refer to page 41 for Semiconductor Lead Layouts.

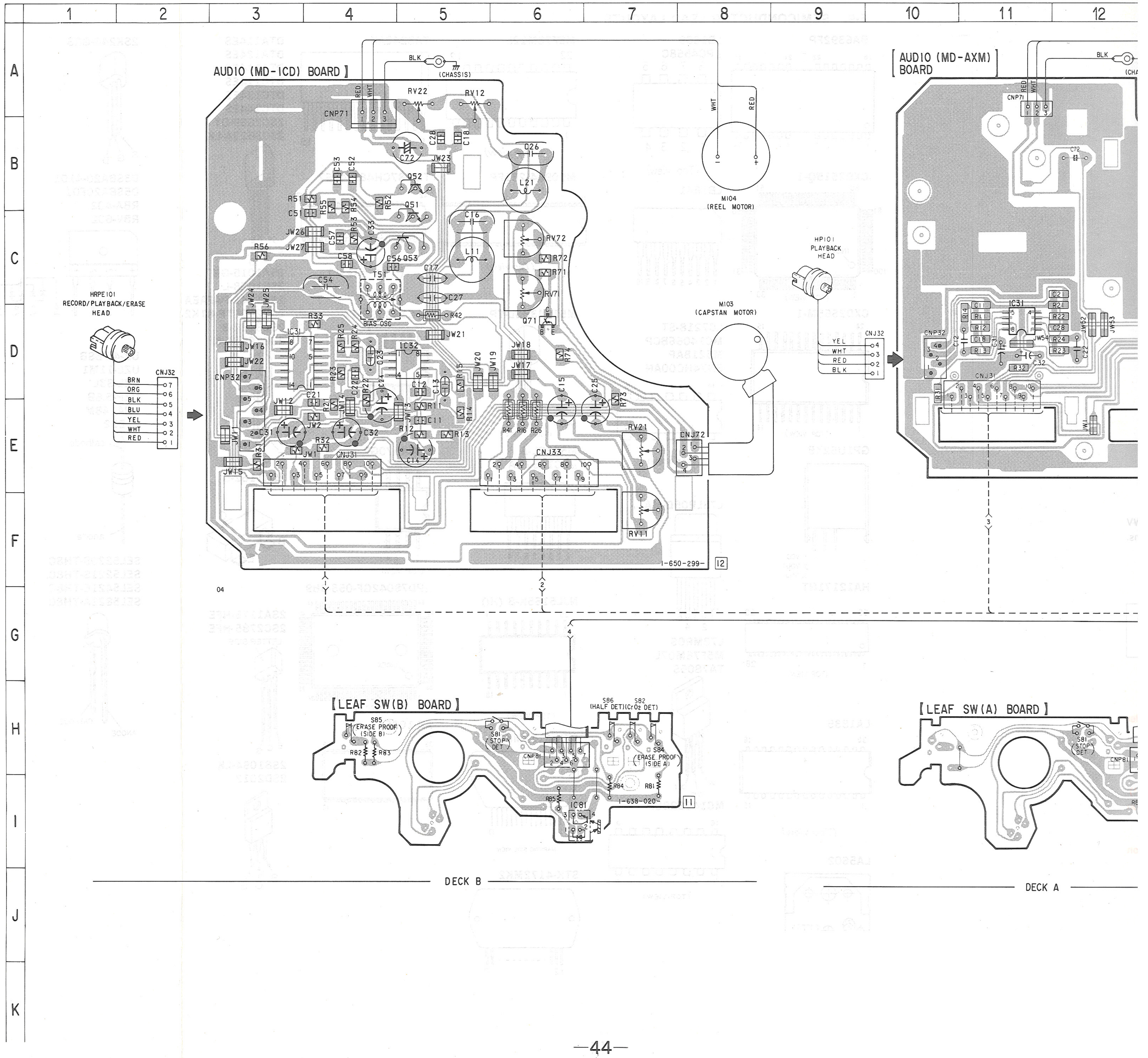
• Semiconductor Location

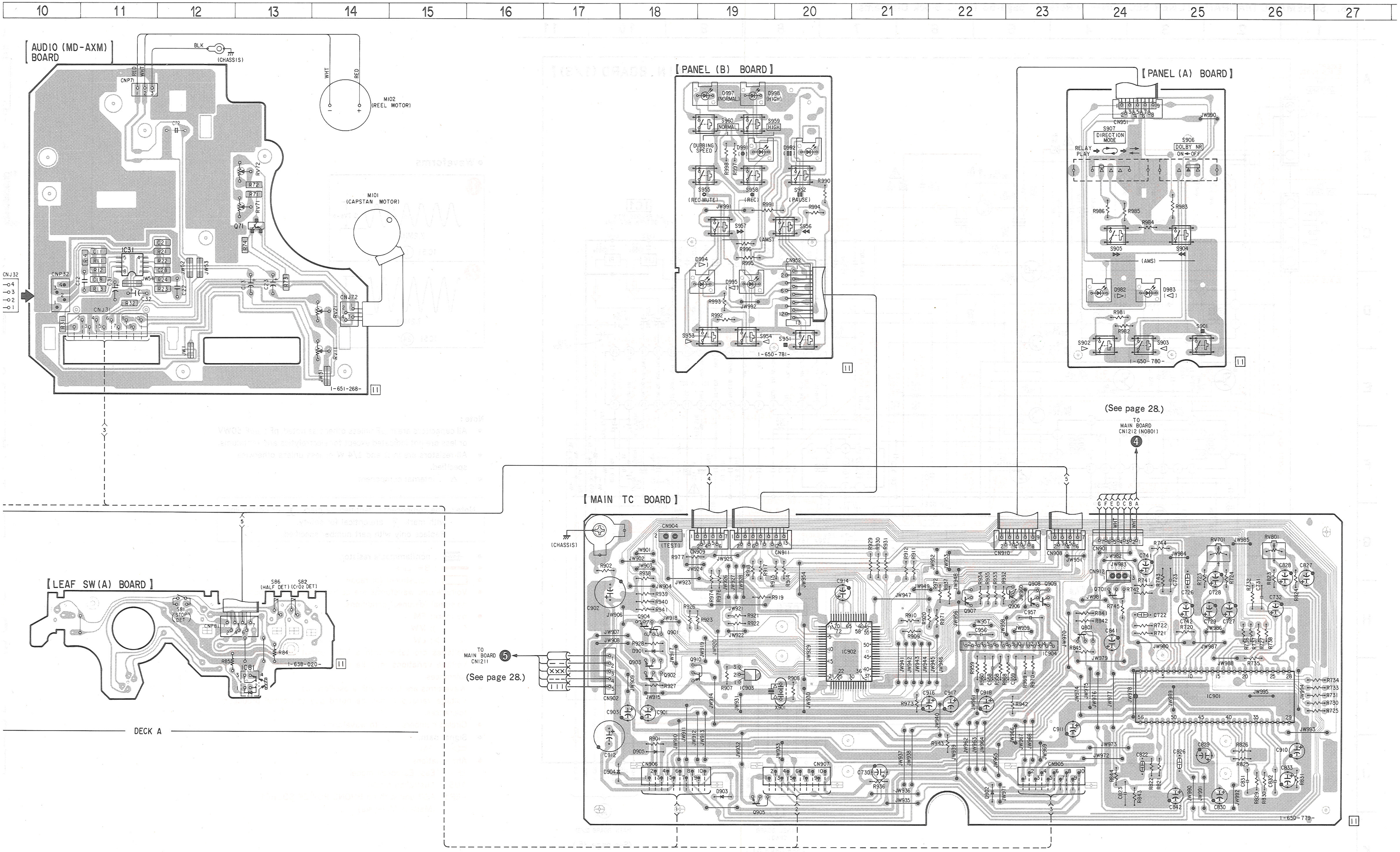
Ref. No.	Location
D901	I-18
D902	K-22
D903	K-19
D904	J-17
D905	J-18
D982	D-24
D983	D-24
D991	B-19
D992	B-20
D994	D-19
D995	D-19
D997	B-19
D998	B-19
IC31	D-3
(IC31)	C-11
IC32	D-5
IC81	I-6
(IC81)	I-13
IC901	I-25
IC902	I-20
IC903	I-19
IC904	I-23
Q51	C-5
Q52	B-5
Q53	C-5
Q71	D-6
(Q71)	C-13
Q701	H-24
Q801	H-23
Q901	H-18
Q902	I-18
Q903	I-18
Q904	H-18
Q905	K-19
Q906	H-22
Q907	H-22
Q908	H-23
Q909	H-23
Q910	I-18

( ): DECK A

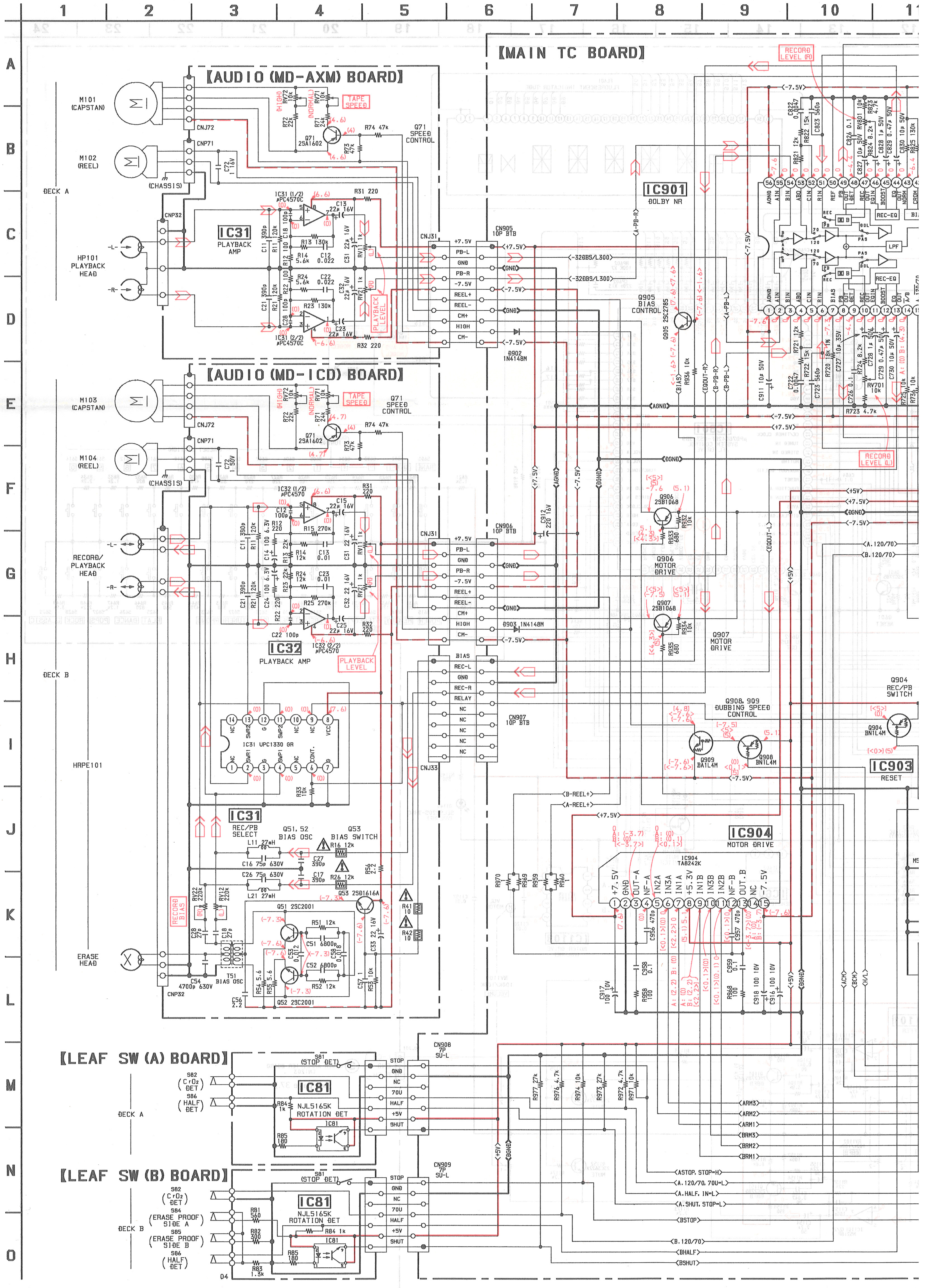
Note :

- ○— : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.

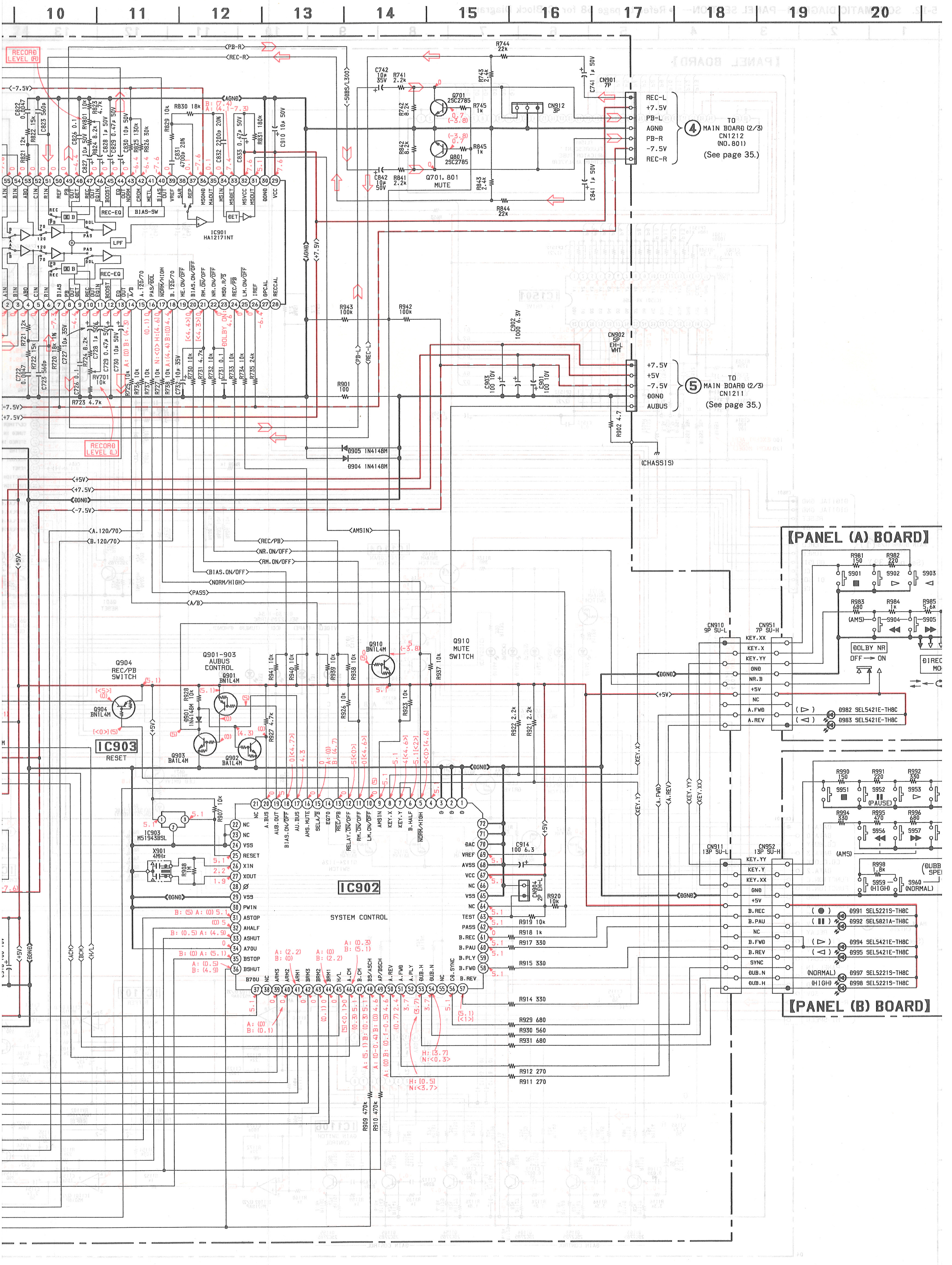

1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
K
AUDIO (MD-ICD) BOARD
AUDIO (MD-AXM) BOARD
HRPE101 RECORD/PLAYBACK/ERASE HEAD
HP101 PLAYBACK HEAD
M104 (REEL MOTOR)
M103 (CAPSTAN MOTOR)
CNJ32
BRN
ORG
BLK
BLU
YEL
WHT
RED
BLK
(CHASSIS)
CNP71
CNP32
CNJ31
CNJ33
CNJ72
RV22
RV12
RV72
RV71
RV21
RV11
IC31
IC32
Q51
Q52
Q53
Q71
L21
L11
T51
BIAS OSC
1-650-299- 12
LEAF SW(B) BOARD
LEAF SW(A) BOARD
S85 (ERASE PROOF (SIDE B))
S81 (STOP DET)
S86 S82 (HALF DET)(CrO2 DET)
S84 (ERASE PROOF (SIDE A))
CNP81
IC81
1-639-020- 11
DECK B
DECK A

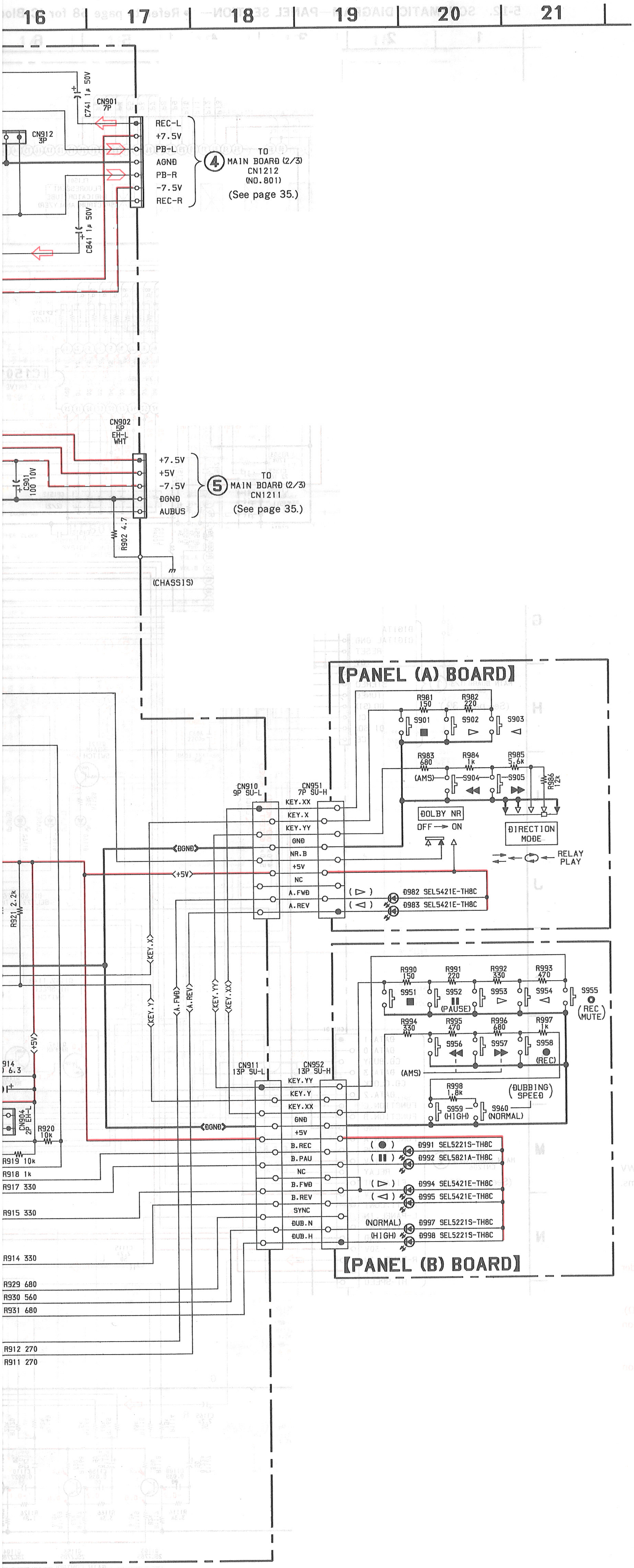

10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
[AUDIO (MD-AXM) BOARD]
BLK
(CHASSIS)
RED
WHT
CNP71
M102 (REEL MOTOR)
M101 (CAPSTAN MOTOR)
IC31
Q71
CNJ32
CNP32
CNJ31
CNJ72
RV71
RV72
RV21
RV11
1-651-268-
[PANEL (B) BOARD]
D997 (NORMAL)
D998 (HIGH)
S960 NORMAL
S959 HIGH
(DUBBING SPEED)
S955 (REC MUTE)
S958 (REC)
S952 (PAUSE)
S957
S956
(AMS)
CN952
S953
S954
S951
1-650-781-
[PANEL (A) BOARD]
CN951
S907 DIRECTION MODE
RELAY PLAY
S906 DOLBY NR ON ↔ OFF
S905
S904
(AMS)
D982
D983
S902
S903
S901
1-650-780-
(See page 28.)
TO MAIN BOARD CN1212 (N0801)
④
[MAIN TC BOARD]
(CHASSIS)
CN904 (TEST)
CN909
CN911
CN910
CN908
CN901
IC902
IC903
IC904
IC901
X901
CN902
CN906
CN907
CN905
RV701
RV801
1-650-779-
TO MAIN BOARD CN1211
⑤
(See page 28.)
[LEAF SW(A) BOARD]
S81 STOP DET
S86 (HALF DET)
S82 (CrO2 DET)
CNP81
IC81
1-638-020-
DECK A

5-11. SCHEMATIC DIAGRAM—DECK SECTION— ● Refer to page 58 for IC Block Diagrams.



【AUDIO (MD-AXM) BOARD】
【AUDIO (MD-ICD) BOARD】
【MAIN TC BOARD】
【LEAF SW (A) BOARD】
【LEAF SW (B) BOARD】
M101 (CAPSTAN)
M102 (REEL)
M103 (CAPSTAN)
M104 (REEL)
DECK A
DECK B
HP101 PLAYBACK HEAD
RECORD/PLAYBACK HEAD
ERASE HEAD
HRPE101
IC31 PLAYBACK AMP
IC32 PLAYBACK AMP
IC31 REC/PB SELECT
IC31 UPC1330 GR
Q71 SPEED CONTROL
Q71 2SA1602
Q51, 52 BIAS OSC
Q53 BIAS SWITCH
Q51 2SC2001
Q52 2SC2001
Q53 2SD1616A
T51 BIAS OSC
TAPE SPEED
PLAYBACK LEVEL
RECORD BIAS
IC901 DOLBY NR
IC903 RESET
IC904 MOTOR DRIVE
IC904 TA8242K
Q905 BIAS CONTROL
Q906 MOTOR DRIVE
Q907 MOTOR DRIVE
Q908, 909 DUBBING SPEED CONTROL
Q904 REC/PB SWITCH
RECORD LEVEL (R)
RECORD LEVEL (L)
IC81 NJL5165K ROTATION DET
CN905 10P BTB
CN906 10P BTB
CN907 10P BTB
CN908 7P SU-L
CN909 7P SU-L
CNJ31
CNJ33
CNJ72
CNP71
CNP32
S81 (STOP DET)
S82 (CrO2 DET)
S86 (HALF DET)
S84 (ERASE PROOF SIDE A)
S85 (ERASE PROOF SIDE B)
D902 1N4148M
D903 1N4148M


10
11
12
13
14
15
16
17
18
19
20
RECORD LEVEL (R)
RECORD LEVEL (L)
IC901 HA12171NT
REC-EQ
BIAS-SW
LPF
DET
Q701 2SC2785
Q801 2SC2785
Q701, 801 MUTE
CN912 3P
CN901 7P
REC-L
+7.5V
PB-L
AGND
PB-R
-7.5V
REC-R
④ TO MAIN BOARD (2/3) CN1212 (NO.801)
(See page 35.)
CN902 5P EH-L WHT
+7.5V
+5V
-7.5V
DGND
AUBUS
⑤ TO MAIN BOARD (2/3) CN1211
(See page 35.)
(CHASSIS)
D905 1N4148M
D904 1N4148M
<+5V>
<+7.5V>
<DGND>
<-7.5V>
<A.120/70>
<B.120/70>
<AMSIN>
<REC/PB>
<NR.ON/OFF>
<RM.ON/OFF>
<BIAS.ON/OFF>
<NORM/HIGH>
<PASS>
<A/B>
Q904 REC/PB SWITCH
Q901-903 AUBUS CONTROL
Q910 MUTE SWITCH
IC903 RESET
IC903 M51943BSL
X901 4MHz
IC902
SYSTEM CONTROL
[PANEL (A) BOARD]
[PANEL (B) BOARD]
CN910 9P SU-L
CN951 7P SU-H
CN911 13P SU-L
CN952 13P SU-H
DOLBY NR OFF → ON
D982 SEL5421E-TH8C
D983 SEL5421E-TH8C
D991 SEL5221S-TH8C
D992 SEL5821A-TH8C
D994 SEL5421E-TH8C
D995 SEL5421E-TH8C
D997 SEL5221S-TH8C
D998 SEL5221S-TH8C
(AMS)
(PAUSE)
(NORMAL)
(HIGH)


16
17
18
19
20
21
C741 1μ 50V
CN901 7P
CN912 3P
REC-L
+7.5V
PB-L
AGND
PB-R
-7.5V
REC-R
④ TO MAIN BOARD (2/3) CN1212 (NO.801)
(See page 35.)
C841 1μ 50V
CN902 5P EH-L WHT
C901 100 10V
+7.5V
+5V
-7.5V
DGND
AUBUS
⑤ TO MAIN BOARD (2/3) CN1211
(See page 35.)
R902 4.7
(CHASSIS)
【PANEL (A) BOARD】
R981 150
R982 220
S901
S902
S903
R983 680
R984 1k
R985 5.6k
R986 12k
(AMS)
S904
S905
DOLBY NR
OFF → ON
DIRECTION MODE
RELAY PLAY
CN910 9P SU-L
CN951 7P SU-H
KEY.XX
KEY.X
KEY.YY
GND
NR.B
+5V
NC
A.FWD
A.REV
DGND
+5V
D982 SEL5421E-TH8C
D983 SEL5421E-TH8C
R921 2.2k
KEY.X
KEY.Y
A.FWD
A.REV
KEY.YY
KEY.XX
+5V
R990 150
R991 220
R992 330
R993 470
S951
S952 (PAUSE)
S953
S954
S955 (REC MUTE)
R994 330
R995 470
R996 680
R997 1k
S956
S957
S958 (REC)
(AMS)
R998 1.8k
S959 (HIGH)
S960 (NORMAL)
(DUBBING SPEED)
CN911 13P SU-L
CN952 13P SU-H
KEY.YY
KEY.Y
KEY.XX
GND
+5V
B.REC
B.PAU
NC
B.FWD
B.REV
SYNC
DUB.N
DUB.H
DGND
D991 SEL5221S-TH8C
D992 SEL5821A-TH8C
D994 SEL5421E-TH8C
D995 SEL5421E-TH8C
(NORMAL) D997 SEL5221S-TH8C
(HIGH) D998 SEL5221S-TH8C
【PANEL (B) BOARD】
C914 6.3
CN904 2P EH-L
R920 10k
R919 10k
R918 1k
R917 330
R915 330
R914 330
R929 680
R930 560
R931 680
R912 270
R911 270

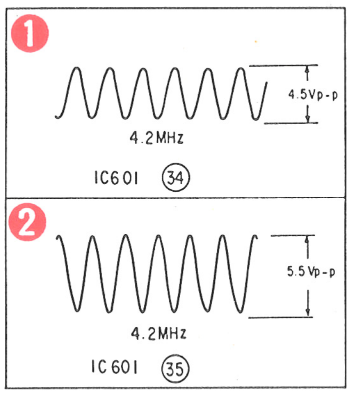
Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▭ : nonflammable resistor.
- ━━ : B+ Line
- ━ ━ : B− Line
- ☐ : adjustment for repair.
- Voltage is dc with respect to ground under no-signal conditions.
- no mark: FM
  ( ): PB
  < >: NORMAL SPEED DUBBING
  [ ]: HIGH SPEED DUBBING
  [< >]: DUBBING
  A : DECK A PB
  B : DECK B PB
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ▷ : PB (DECK A)
  ▷ : PB (DECK B)
  ▷» : REC (DECK B)

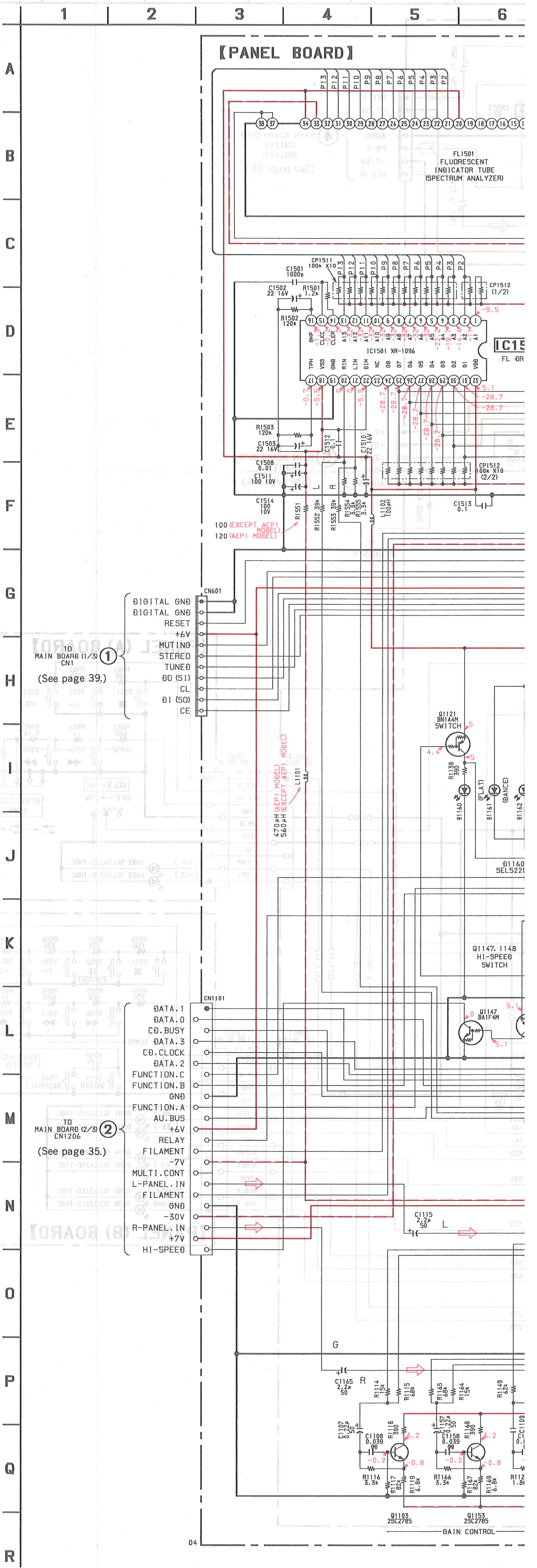
● Waveforms


1
4.5Vp-p
4.2MHz
IC601 34
2
5.5Vp-p
4.2MHz
IC601 35

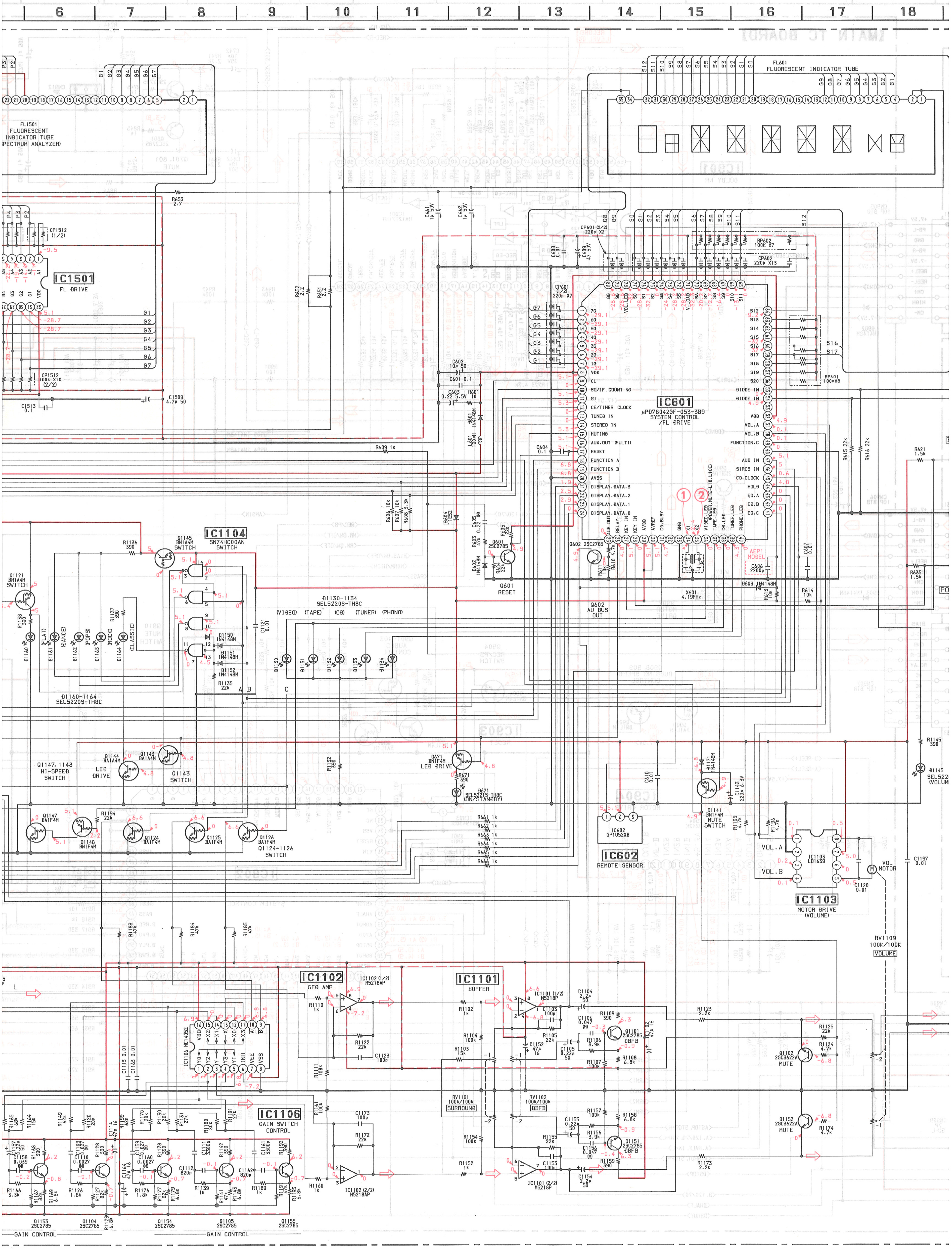
Note :

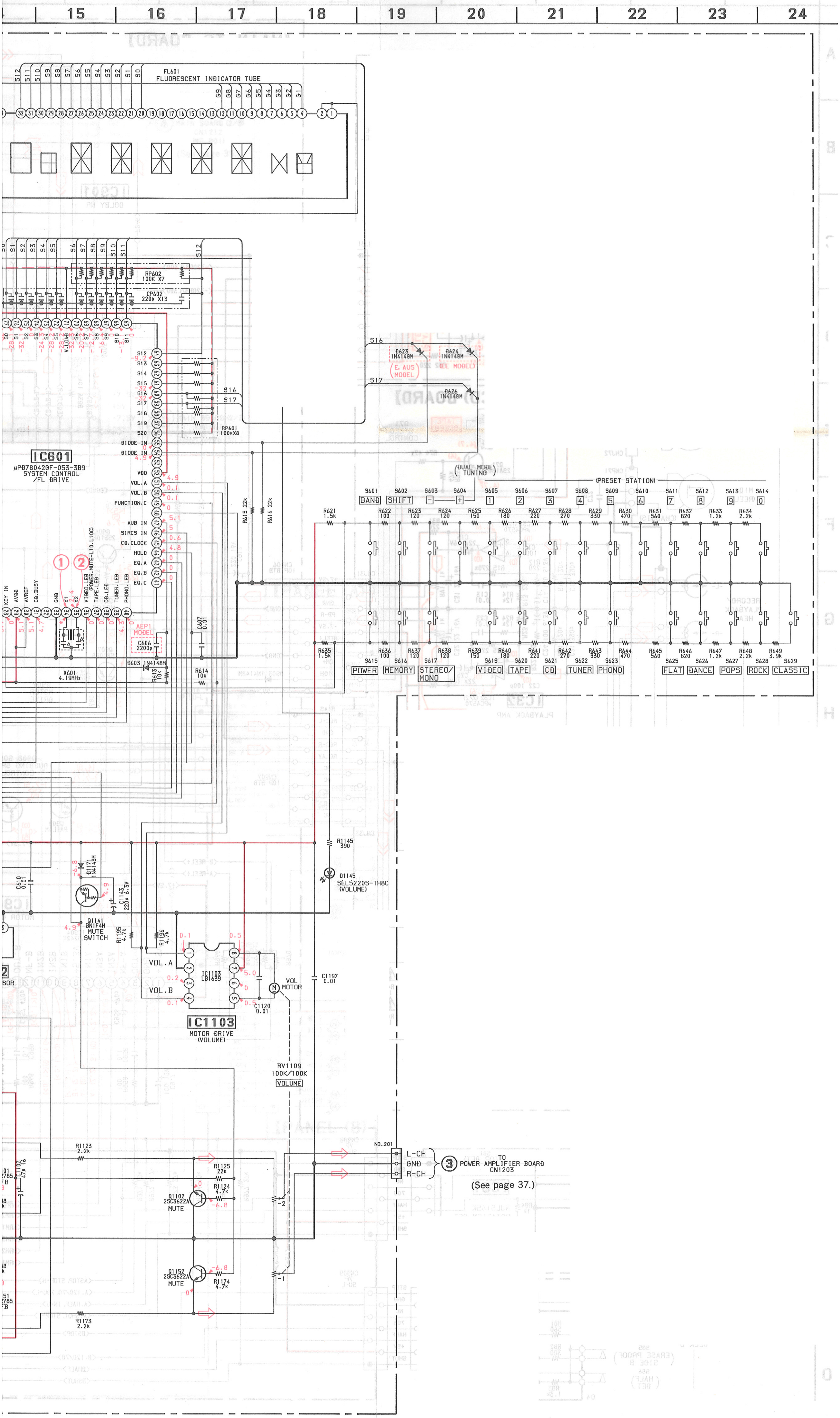
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▬▬ : B+ Line
- ▬ ▬ ▬ : B− Line
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
- Abbreviations
  AUS : Australian model
  EE : East European model
  AEP1 : AEP unit with no PHONO POWER SOURCE (Made in Malaysia)

5-12. SCHEMATIC DIAGRAM—PANEL SECTION— ● Refer to page 58 for IC B

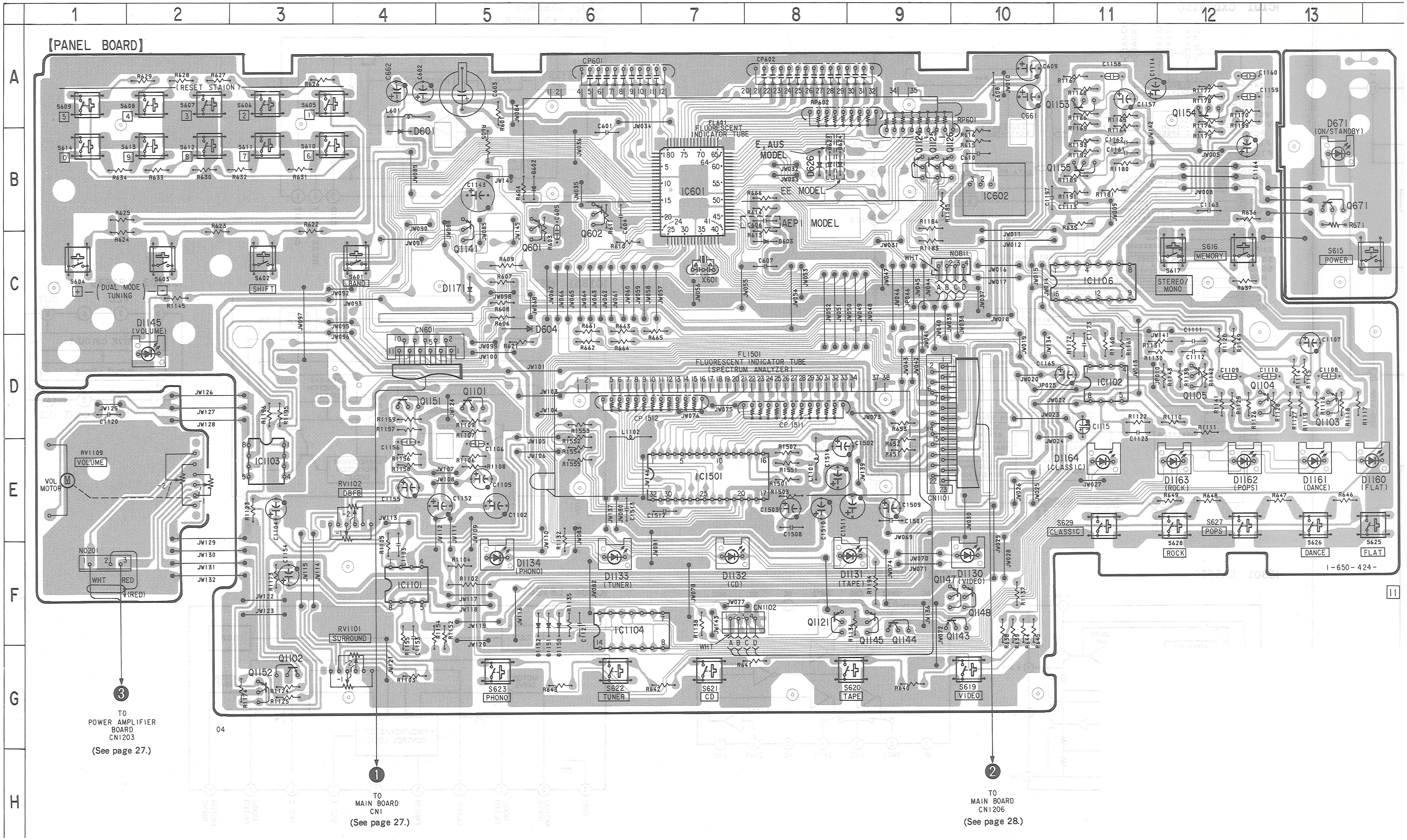

1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
【PANEL BOARD】
FL1501
FLUORESCENT
INDICATOR TUBE
(SPECTRUM ANALYZER)
CP1511 100k X10
CP1512 (1/2)
CP1512 100k X10 (2/2)
IC1501 XR-1096
IC15
FL DR
C1501 1000p
C1502 22 16V
R1501 1.2k
R1502 120k
R1503 120k
C1503 22 16V
C1508 0.01
C1511 100 10V
C1514 100 10V
C1512 0.1
C1510 22 16V
C1513 0.1
R1551
R1552 39k
R1553 39k
R1554 47k
R1555 3.3k
L1102 100μH
100 (EXCEPT AEP1 MODEL)
120 (AEP1 MODEL)
CN601
DIGITAL GND
DIGITAL GND
RESET
+6V
MUTING
STEREO
TUNED
D0 (SI)
CL
D1 (SO)
CE
TO MAIN BOARD (1/3) CN1
(See page 39.)
L1101
470μH (AEP1 MODEL)
560μH (EXCEPT AEP1 MODEL)
Q1121 BN1A4M SWITCH
R1138 390
D1160
D1161
D1162
(FLAT)
(DANCE)
D1160 SEL5220
Q1147, 1148 HI-SPEED SWITCH
Q1147 BA1F4M
CN1101
DATA.1
DATA.0
CD.BUSY
DATA.3
CD.CLOCK
DATA.2
FUNCTION.C
FUNCTION.B
GND
FUNCTION.A
AU.BUS
+6V
RELAY
FILAMENT
-7V
MULTI.CONT
L-PANEL.IN
FILAMENT
GND
-30V
R-PANEL.IN
+7V
HI-SPEED
TO MAIN BOARD (2/3) CN1206
(See page 35.)
C1115 2.2 50
C1165 2.2 50
R1114 15k
R1115 68k
R1165 68k
R1164 15k
R1149
C1107 0.22 50
C1108 0.039
R1118 390
C1157 0.22
C1158 0.039
R1168 390
R1116 3.3k
R1117 82k
R1119 6.8k
R1166 3.3k
R1167 82k
R1169 6.8k
Q1103 2SC2785
Q1153 2SC2785
GAIN CONTROL
G
L
R
04

ge 58 for IC Block Diagrams.


6
7
8
9
10
11
12
13
14
15
16
17
18
FL1501
FLUORESCENT
INDICATOR TUBE
(SPECTRUM ANALYZER)
FL601
FLUORESCENT INDICATOR TUBE
IC1501
FL DRIVE
CP1512 (1/2)
CP1512 100k X10 (2/2)
C1509 4.7μ 50
C1513 0.1
R653 2.7
R652 2.2
R651 2.2
C661 1μ 50V
C662 1μ 50V
CP601 (2/2) 220p X2
CP601 (1/2) 220p X7
CP602 220p X13
RP602 100K X7
RP601 100kX8
C602 10μ 50
C601 0.1
C603 0.22 5.5V
R601 1k
D601
L601 100μH
R609 1k
C604 0.1
IC601
μPD78042GF-053-3B9
SYSTEM CONTROL
/FL DRIVE
SO/IF COUNT NG
SI
CE/TIMER CLOCK
TUNED IN
STEREO IN
MUTING
AUX.OUT (MULTI)
RESET
FUNCTION A
FUNCTION B
AVSS
DISPLAY.DATA.3
DISPLAY.DATA.2
DISPLAY.DATA.1
DISPLAY.DATA.0
DIODE IN
VOL.A
VOL.B
FUNCTION.C
AUB IN
SIRCS IN
CD.CLOCK
HOLD
EQ.A
EQ.B
EQ.C
AU BUS OUT
RELAY
KEY IN
AVDD
AVREF
CD.BUSY
GND
X1
X2
VIDEO.LED
TAPE.LED
CD.LED
TUNER.LED
PHONO.LED
①
②
AEP1 MODEL
C606 2200p
C607 0.01
D603 1N4148M
R613 10k
R614 10k
X601 4.19MHz
Q601 2SC2785
Q601 RESET
Q602 2SC2785
Q602 AU BUS OUT
R606 10k
R607 10k
R608 3.3k
C605 0.22 50
R605 22k
R603 47k
R604 22k
D604 1T5S2
R615 22k
R616 22k
R621 1.5k
R635 1.5k
IC1104
SN74HC00AN
SWITCH
Q1145 BN1A4M SWITCH
R1136 390
Q1121 BN1A4M SWITCH
R1138 390
D1160–1164
SEL5220S-TH8C
(FLAT)
(DANCE)
(POPS)
(ROCK)
(CLASSIC)
D1150 1N4148M
D1151 1N4148M
D1152 1N4148M
R1135 22k
C1121 0.01
D1130–1134
SEL5220S-TH8C
(VIDEO)
(TAPE)
(CD)
(TUNER)
(PHONO)
Q1147, 1148
HI-SPEED
SWITCH
Q1144 BA1A4M
LED DRIVE
Q1143 BA1A4M
Q1143 SWITCH
Q671 BN1F4M
LED DRIVE
R671 390
D671
SEL5221S-TH8C
(ON/STANDBY)
Q1147 BA1F4M
Q1148 BN1F4M
R1194 22k
Q1124 BA1F4M
Q1125 BA1F4M
Q1126 BA1F4M
Q1124–1126 SWITCH
R661 1k
R662 1k
R663 1k
R664 1k
R665 1k
R666 1k
IC602
GP1U52XB
IC602
REMOTE SENSOR
C610 0.1
Q1171 1N4148M
C1145 220μ 6.3V
Q1141 BN1F4M
MUTE
SWITCH
R1195 4.7k
R1196 4.7k
IC1103
LB1639
VOL.A
VOL.B
VOL MOTOR
C1197 0.01
C1120 0.01
IC1103
MOTOR DRIVE
(VOLUME)
RV1109
100K/100K
VOLUME
R1145 390
D1145
SEL522
(VOLUM
R1183 47k
R1184 47k
R1185 47k
IC1102
GEQ AMP
IC1102 (1/2) M5218AP
R1110 1k
R1122 22k
C1123 100p
IC1106 MC14052
C1113 0.01
C1143 0.01
R1111 100k
R1161 100k
IC1101
BUFFER
IC1101 (1/2) M5218P
R1102 1k
R1104 100k
R1103 15k
C1103 100p
R1105 22k
C1152 47μ 16
C1104 2.2μ 50
C1106 0.047
R1109 390
R1106 3.9k
C1105 0.22μ 50
R1107 100k
Q1101 2SC2785 DBFB
R1108 6.8k
C1102 47μ 16
R1123 2.2k
R1125 22k
R1124 4.7k
Q1102 2SC3622A MUTE
RV1101
100k/100k
SURROUND
RV1102
100k/100k
DBFB
IC1106
GAIN SWITCH
CONTROL
C1173 100p
R1172 22k
R1154 100k
R1152 1k
R1160 1k
IC1102 (2/2) M5218AP
IC1101 (2/2) M5218P
C1153 100p
R1155 22k
C1155 0.22μ 50
R1156 3.9k
C1156 0.047
R1157 100k
R1158 6.8k
Q1151 2SC2785 DBFB
R1159 390
C1154 2.2μ 50
R1173 2.2k
Q1152 2SC3622A MUTE
R1174 4.7k
Q1153 2SC2785
Q1104 2SC2785
Q1154 2SC2785
Q1105 2SC2785
Q1155 2SC2785
GAIN CONTROL
GAIN CONTROL
L


15
16
17
18
19
20
21
22
23
24
FL601
FLUORESCENT INDICATOR TUBE
S12 S11 S10 S9 S8 S7 S6 S5 S4 S3 S2 S1 S0
G9 G8 G7 G6 G5 G4 G3 G2 G1
RP602
100K X7
CP602
220p X13
S12
S13
S14
S15
S16
S17
S18
S19
S20
DIODE IN
DIODE IN
VDD
VOL.A
VOL.B
FUNCTION.C
AUD IN
SIRCS IN
CD.CLOCK
HOLD
EQ.A
EQ.B
EQ.C
RP601
100kX8
IC601
μPD78042GF-053-3B9
SYSTEM CONTROL
/FL DRIVE
KEY IN
AVDD
AVREF
CD.BUSY
GND
X1
X2
VIDEO.LED
TAPE.LED
CD.LED
TUNER.LED
PHONO.LED
①
②
AEP1
MODEL
C606
2200p
C607
0.01
D603 1N4148M
R613
10k
R614
10k
X601
4.19MHz
R615 22k
R616 22k
S16
S17
D623
1N4148M
D624
1N4148M
(E, AUS
MODEL)
(SEE MODEL)
D626
1N4148M
(DUAL MODE)
TUNING
(PRESET STATION)
S601
S602
S603
S604
S605
S606
S607
S608
S609
S610
S611
S612
S613
S614
BAND
SHIFT
−
+
1
2
3
4
5
6
7
8
9
0
R621
1.5k
R622
100
R623
120
R624
120
R625
150
R626
180
R627
220
R628
270
R629
330
R630
470
R631
560
R632
820
R633
1.2k
R634
2.2k
R635
1.5k
R636
100
R637
120
R638
120
R639
150
R640
180
R641
220
R642
270
R643
330
R644
470
R645
560
R646
820
R647
1.2k
R648
2.2k
R649
3.9k
S615
S616
S617
S619
S620
S621
S622
S623
S625
S626
S627
S628
S629
POWER
MEMORY
STEREO/
MONO
VIDEO
TAPE
CD
TUNER
PHONO
FLAT
DANCE
POPS
ROCK
CLASSIC
R1145
390
D1145
SEL5220S-TH8C
(VOLUME)
C610
0.01
D1171
1N4148M
Q1141
BN1F4M
MUTE
SWITCH
C1143
220μ 6.3V
R1195
4.7k
R1196
4.7k
VOL.A
VOL.B
IC1103
LB1639
VOL
MOTOR
C1197
0.01
C1120
0.01
IC1103
MOTOR DRIVE
(VOLUME)
RV1109
100K/100K
VOLUME
R1123
2.2k
C1102
47μ 16
R1125
22k
R1124
4.7k
Q1102
2SC3622A
MUTE
Q1152
2SC3622A
MUTE
R1174
4.7k
R1173
2.2k
NO.201
L-CH
GND
R-CH
③
TO
POWER AMPLIFIER BOARD
CN1203
(See page 37.)

5-13. PRINTED WIRING BOARD—PANEL SECTION— • Refer to page 41 for Semiconductor Lead Layouts.

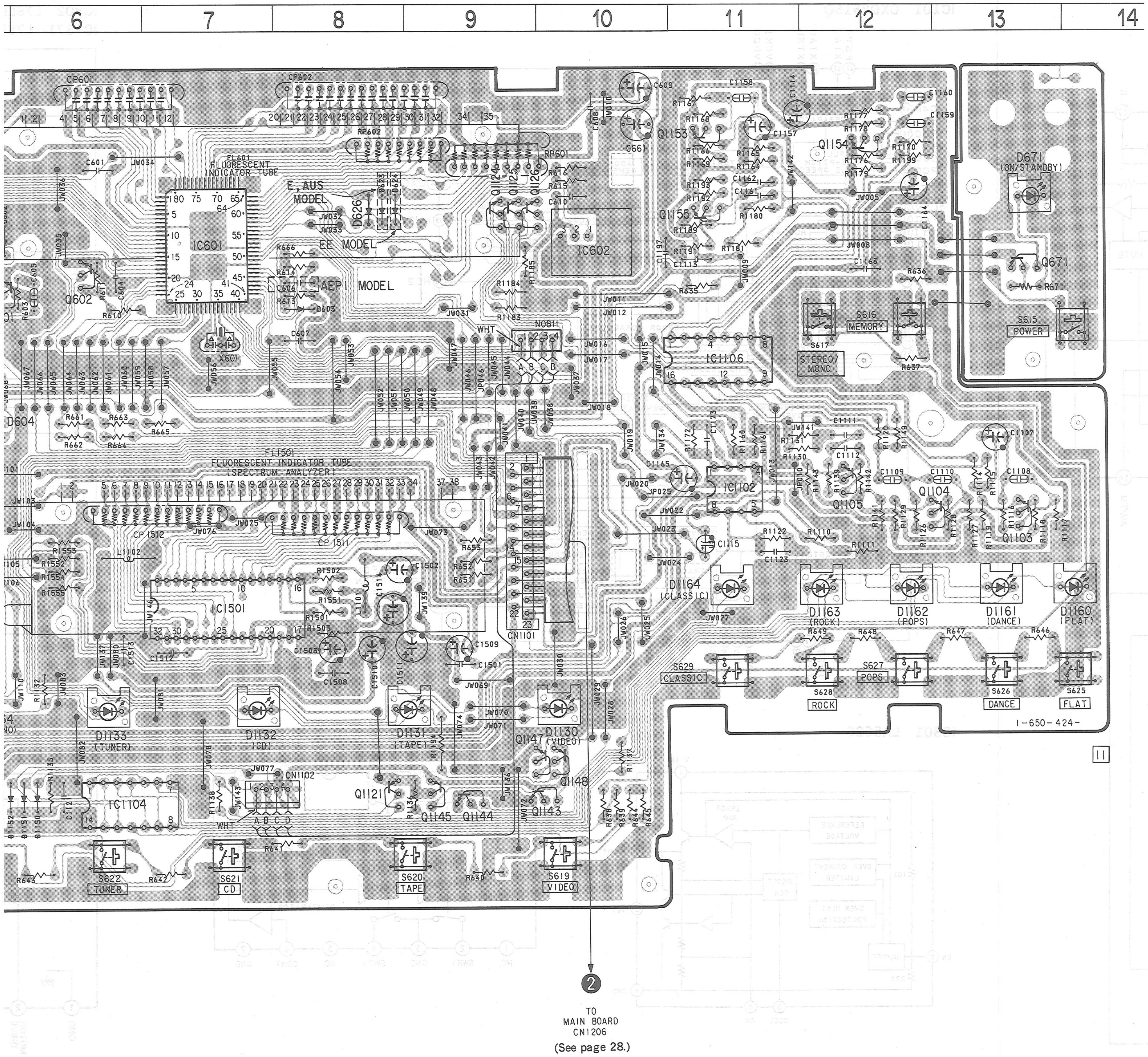

[PANEL BOARD]
RESET
STAION
DUAL MODE TUNING
SHIFT
BAND
D1145 (VOLUME)
RV1109 VOLUME
VOL MOTOR
WHT
RED
(RED)
FL601 FLUORESCENT INDICATOR TUBE
IC601
E, AUS MODEL
EE MODEL
AEP1 MODEL
IC602
D671 (ON/STANDBY)
Q671
S615 POWER
S616 MEMORY
S617 STEREO/MONO
FL1501 FLUORESCENT INDICATOR TUBE (SPECTRUM ANALYZER)
IC1501
IC1106
IC1102
IC1103
IC1101
IC1104
RV1102 DBFB
RV1101 SURROUND
D1164 (CLASSIC)
D1163 (ROCK)
D1162 (POPS)
D1161 (DANCE)
D1160 (FLAT)
S629 CLASSIC
S628 ROCK
S627 POPS
S626 DANCE
S625 FLAT
D1134 (PHONO)
D1133 (TUNER)
D1132 (CD)
D1131 (TAPE)
D1130 (VIDEO)
S623 PHONO
S622 TUNER
S621 CD
S620 TAPE
S619 VIDEO
1-650-424-
11
04

❸ TO POWER AMPLIFIER BOARD CN1203 (See page 27.)

❶ TO MAIN BOARD CN1 (See page 27.)

❷ TO MAIN BOARD CN1206 (See page 28.)

Layouts.


6
7
8
9
10
11
12
13
14
CP601
CP602
RP602
RP601
FL601 FLUORESCENT INDICATOR TUBE
E_AUS MODEL
EE MODEL
AEP1 MODEL
IC601
IC602
Q602
Q1124
Q1125
Q1126
Q1153
Q1154
Q1155
D626
D671 (ON/STANDBY)
Q671
X601
N0811
WHT
S616 MEMORY
S617 STEREO/MONO
S615 POWER
IC1106
IC1102
Q1104
Q1105
Q1103
D604
FL1501 FLUORESCENT INDICATOR TUBE (SPECTRUM ANALYZER)
CP1512
CP1511
IC1501
CN1101
D1164 (CLASSIC)
D1163 (ROCK)
D1162 (POPS)
D1161 (DANCE)
D1160 (FLAT)
S629 CLASSIC
S628 ROCK
S627 POPS
S626 DANCE
S625 FLAT
1-650-424-
11
D1133 (TUNER)
D1132 (CD)
D1131 (TAPE)
D1130 (VIDEO)
Q1147
Q1148
IC1104
CN1102
Q1121
Q1145
Q1144
Q1143
S622 TUNER
S621 CD
S620 TAPE
S619 VIDEO
2
TO MAIN BOARD CN1206
(See page 28.)

● Semiconductor Location

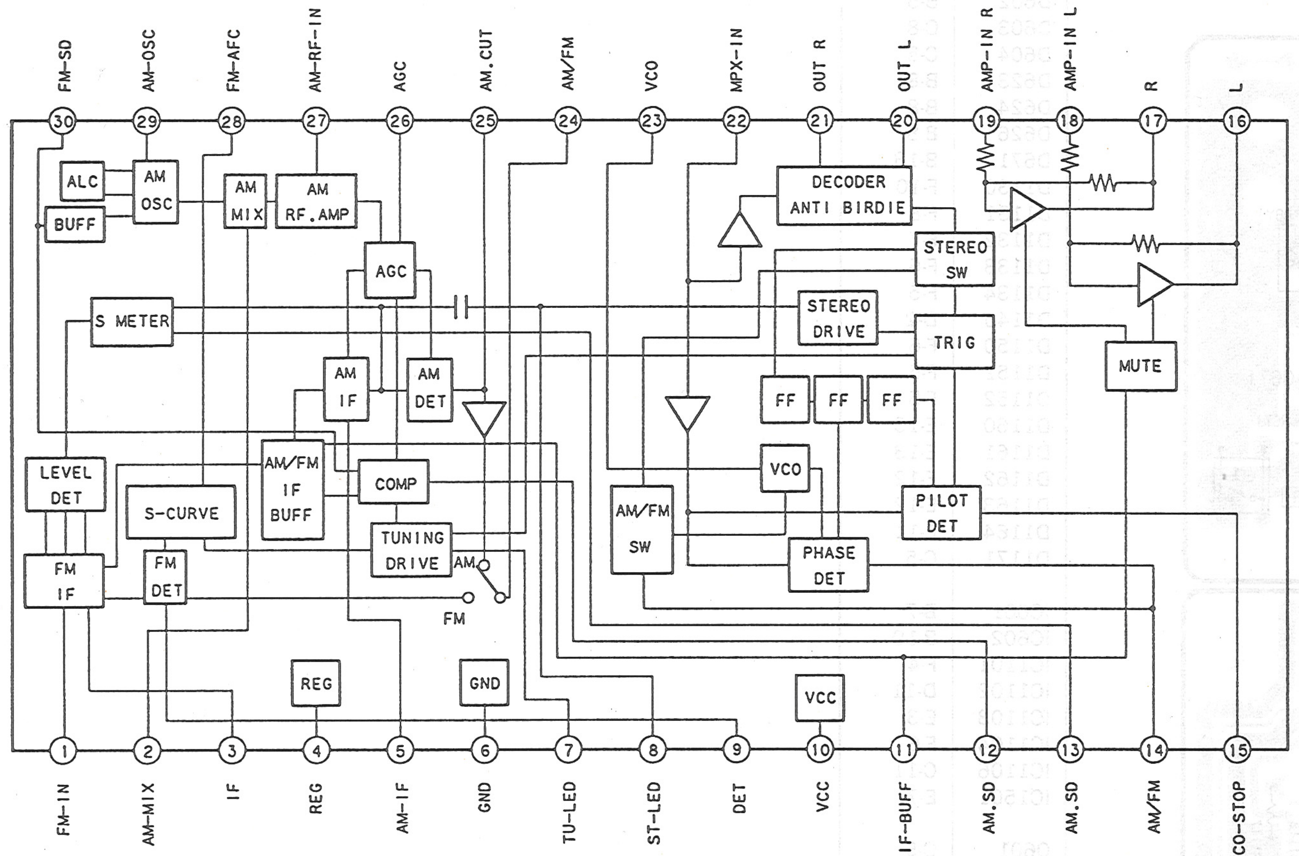
Ref. No.	Location
D601	B-4
D602	B-5
D603	C-8
D604	C-5
D623	B-8
D624	B-8
D626	B-8
D671	B-13
D1130	F-10
D1131	F-8
D1132	F-7
D1133	F-6
D1134	F-5
D1145	D-2
D1150	F-6
D1151	F-5
D1152	F-5
D1160	E-13
D1161	E-13
D1162	E-12
D1163	E-12
D1164	E-11
D1171	C-5
IC601	B-7
IC602	B-10
IC1101	F-4
IC1102	D-11
IC1103	E-3
IC1104	F-6
IC1106	C-11
IC1501	E-7
Q601	C-5
Q602	B-6
Q671	B-13
Q1101	D-5
Q1102	G-3
Q1103	D-13
Q1104	D-12
Q1105	D-12
Q1121	F-8
Q1124	B-9
Q1125	B-9
Q1126	B-9
Q1141	C-5
Q1143	F-9
Q1144	F-9
Q1145	F-9
Q1147	F-9
Q1148	F-10
Q1151	D-4
Q1152	G-3
Q1153	A-11
Q1154	A-12
Q1155	B-11

Note:

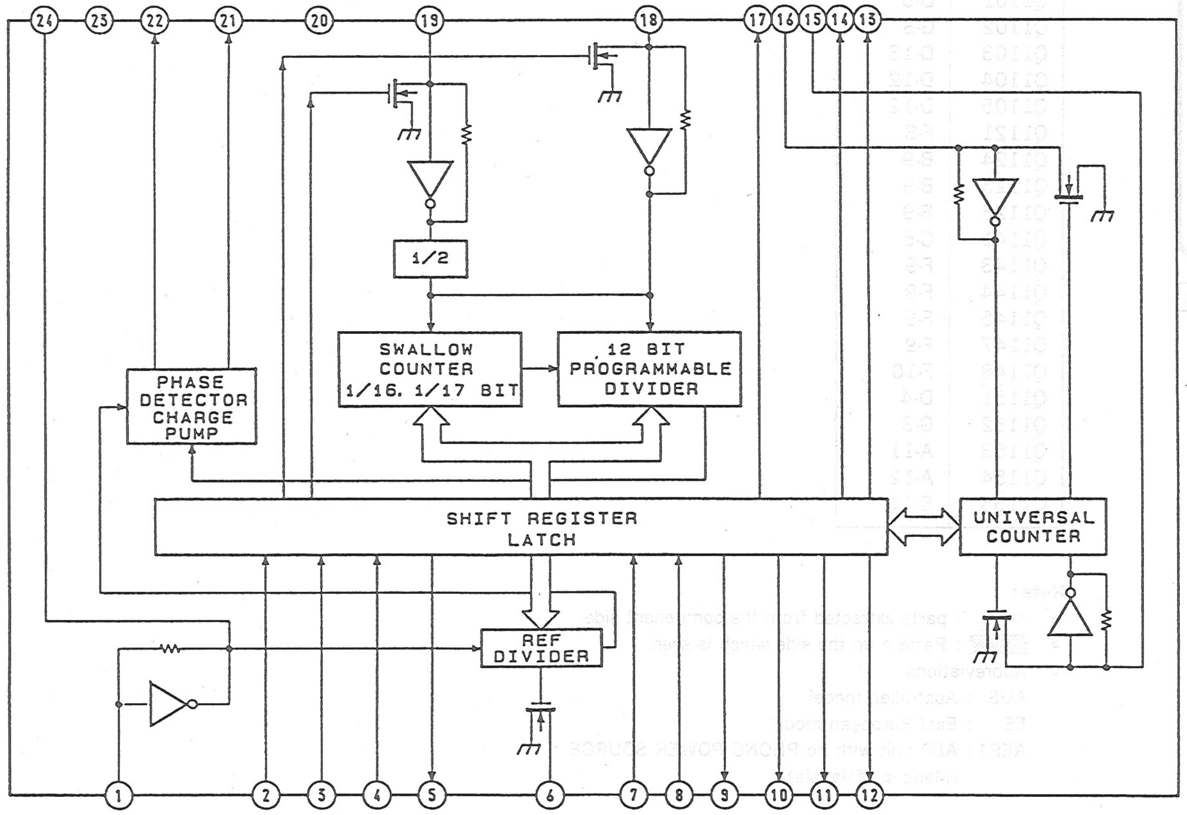
- ○— : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.
- Abbreviations
  AUS : Australian model
  EE : East European model
  AEP1 : AEP unit with no PHONO POWER SOURCE
  (Made in Malaysia)

- **IC Block Diagrams**

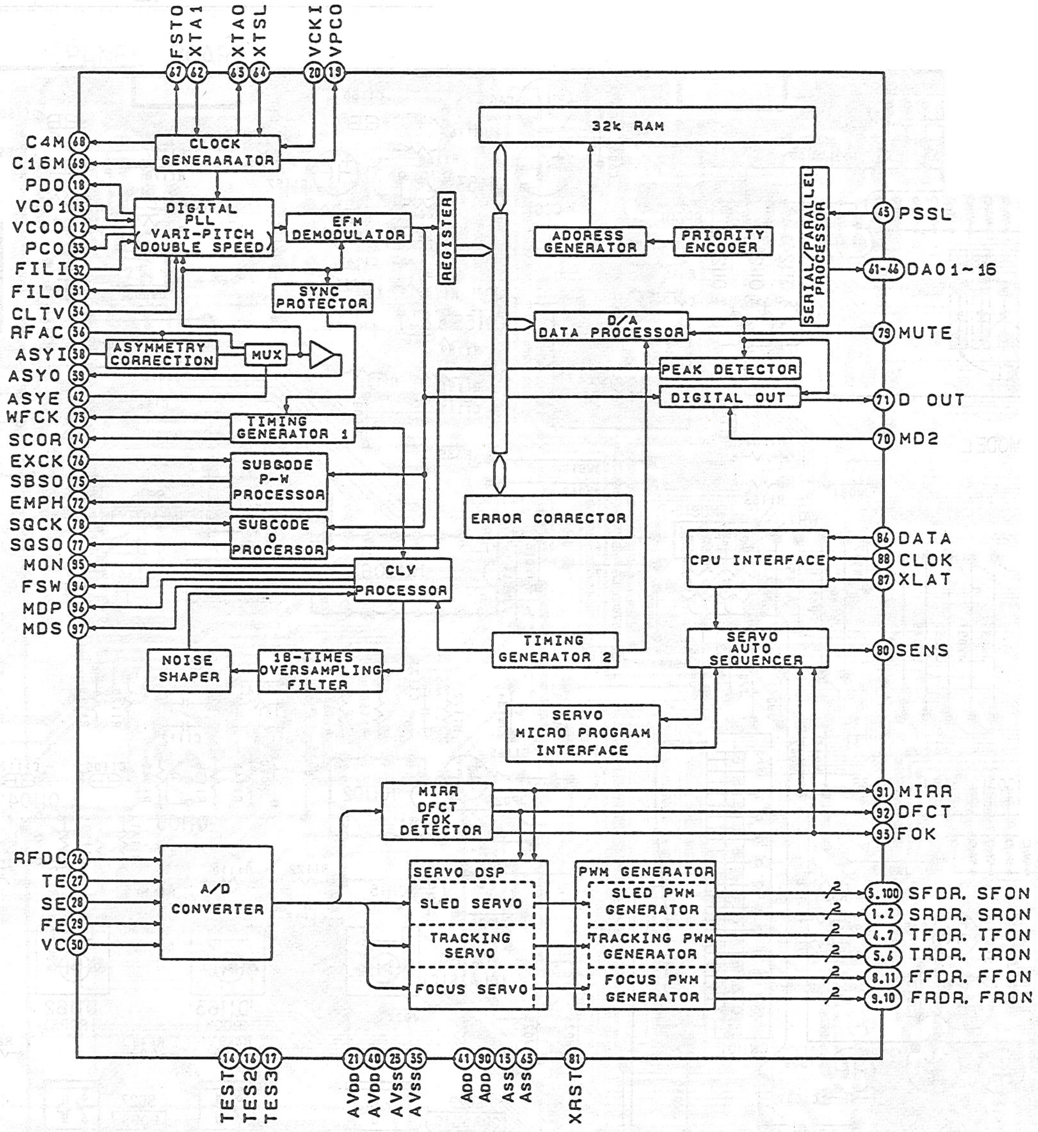
IC1 LA1835


FM-SD
AM-OSC
FM-AFC
AM-RF-IN
AGC
AM.CUT
AM/FM
VCO
MPX-IN
OUT R
OUT L
AMP-IN R
AMP-IN L
R
L
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
ALC
AM OSC
BUFF
AM MIX
AM RF.AMP
AGC
DECODER ANTI BIRDIE
STEREO SW
S METER
STEREO DRIVE
TRIG
MUTE
AM IF
AM DET
FF
FF
FF
LEVEL DET
AM/FM IF BUFF
COMP
VCO
AM/FM SW
PILOT DET
S-CURVE
FM IF
FM DET
TUNING DRIVE
AM
FM
PHASE DET
REG
GND
VCC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
FM-IN
AM-MIX
IF
REG
AM-IF
GND
TU-LED
ST-LED
DET
VCC
IF-BUFF
AM.SD
AM.SD
AM/FM
VCO-STOP

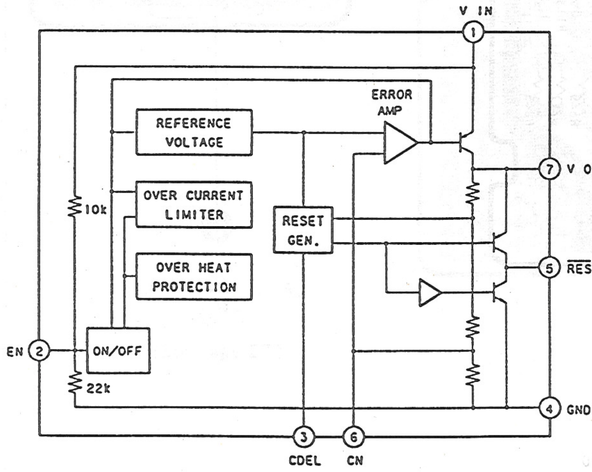
IC51 LC7218


24
23
22
21
20
19
18
17
16
15
14
13
1/2
SWALLOW COUNTER 1/16. 1/17 BIT
12 BIT PROGRAMMABLE DIVIDER
PHASE DETECTOR CHARGE PUMP
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
REF DIVIDER
1
2
3
4
5
6
7
8
9
10
11
12

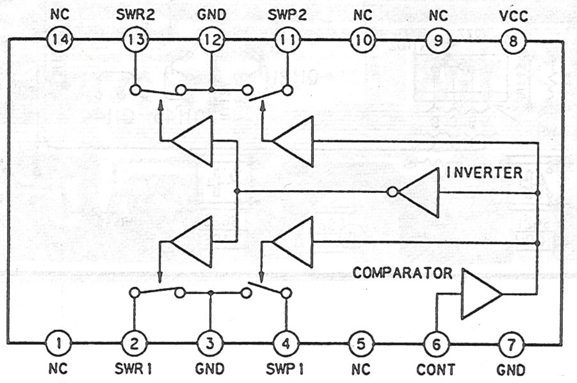
IC101 CXD2515Q


FSTO
XTA1
XTAO
XTSL
VCKI
VPCO
67
62
63
64
20
19
C4M 68
C16M 69
PDO 18
VCO1 13
VCOO 12
PCO 33
FILI 32
FILO 31
CLTV 34
RFAC 36
ASYI 38
ASYO 39
ASYE 42
WFCK 73
SCOR 74
EXCK 76
SBSO 75
EMPH 72
SQCK 78
SQSO 77
MON 95
FSW 94
MDP 96
MDS 97
CLOCK GENERARATOR
DIGITAL PLL VARI-PITCH DOUBLE SPEED
EFM DEMODULATOR
SYNC PROTECTOR
ASYMMETRY CORRECTION
MUX
TIMING GENERATOR 1
SUBGODE P-W PROCESSOR
SUBCODE Q PROCERSOR
CLV PROCESSOR
NOISE SHAPER
18-TIMES OVERSAMPLING FILTER
REGISTER
32k RAM
ADDRESS GENERATOR
PRIORITY ENCODER
SERIAL/PARALLEL PROCESSOR
D/A DATA PROCESSOR
PEAK DETECTOR
DIGITAL OUT
ERROR CORRECTOR
CPU INTERFACE
TIMING GENERATOR 2
SERVO AUTO SEQUENCER
SERVO MICRO PROGRAM INTERFACE
45 PSSL
61~66 DAO1~16
79 MUTE
71 D OUT
70 MD2
86 DATA
88 CLOK
87 XLAT
80 SENS
91 MIRR
92 DFCT
93 FOK
MIRR DFCT FOK DETECTOR
RFDC 26
TE 27
SE 28
FE 29
VC 30
A/D CONVERTER
SERVO DSP
SLED SERVO
TRACKING SERVO
FOCUS SERVO
PWM GENERATOR
SLED PWM GENERATOR
TRACKING PWM GENERATOR
FOCUS PWM GENERATOR
2
3.100 SFDR. SFON
1.2 SRDR. SRON
4.7 TFDR. TFON
5.6 TRDR. TRON
8.11 FFDR. FFON
9.10 FRDR. FRON
14 TEST
16 TES2
17 TES3
21 AVDD
40 AVDD
25 AVSS
35 AVSS
41 ADD
90 ADD
15 ASS
65 ASS
81 XRST

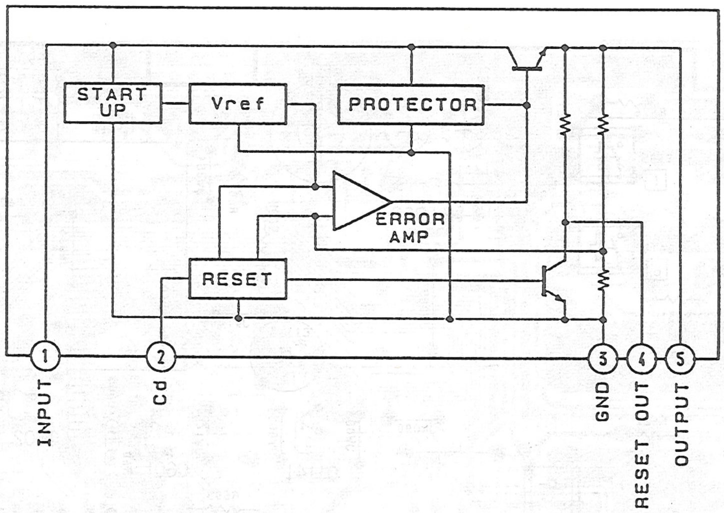
IC301 LA5620


V IN
1
REFERENCE VOLTAGE
ERROR AMP
OVER CURRENT LIMITER
OVER HEAT PROTECTION
RESET GEN.
10k
22k
EN 2
ON/OFF
7 V OUT
5 RES
4 GND
3
6
CDEL
CN

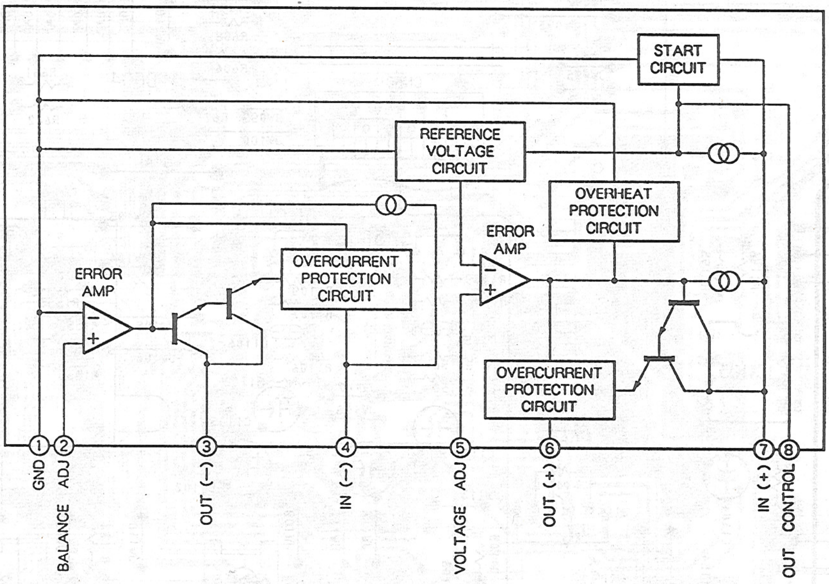
IC31 µPC1330GR


NC
SWR2
GND
SWP2
NC
NC
VCC
14
13
12
11
10
9
8
INVERTER
COMPARATOR
1
2
3
4
5
6
7
NC
SWR1
GND
SWP1
NC
CONT
GND

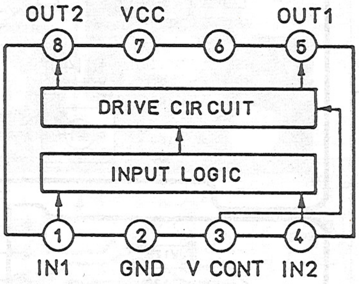
IC302 L78LR05
IC1371 L78MR06


START UP
Vref
PROTECTOR
ERROR AMP
RESET
1
2
3
4
5
INPUT
Cd
GND
RESET OUT
OUTPUT

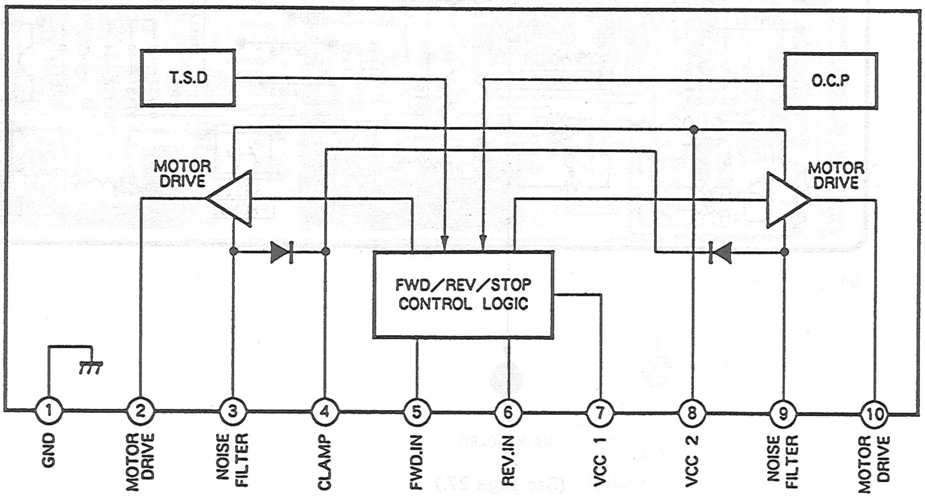
IC1351 M5230L-A


START CIRCUIT
REFERENCE VOLTAGE CIRCUIT
OVERHEAT PROTECTION CIRCUIT
ERROR AMP
OVERCURRENT PROTECTION CIRCUIT
ERROR AMP
OVERCURRENT PROTECTION CIRCUIT
1
2
3
4
5
6
7
8
GND
BALANCE ADJ
OUT (−)
IN (−)
VOLTAGE ADJ
OUT (+)
IN (+)
OUT CONTROL

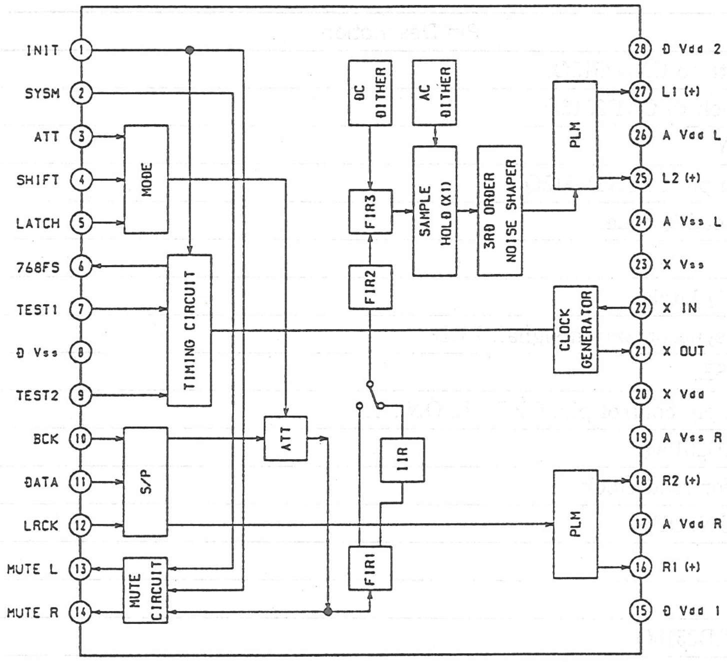
IC1103 LB1639


OUT2
VCC
OUT1
8
7
6
5
DRIVE CIRCUIT
INPUT LOGIC
1
2
3
4
IN1
GND
V CONT
IN2

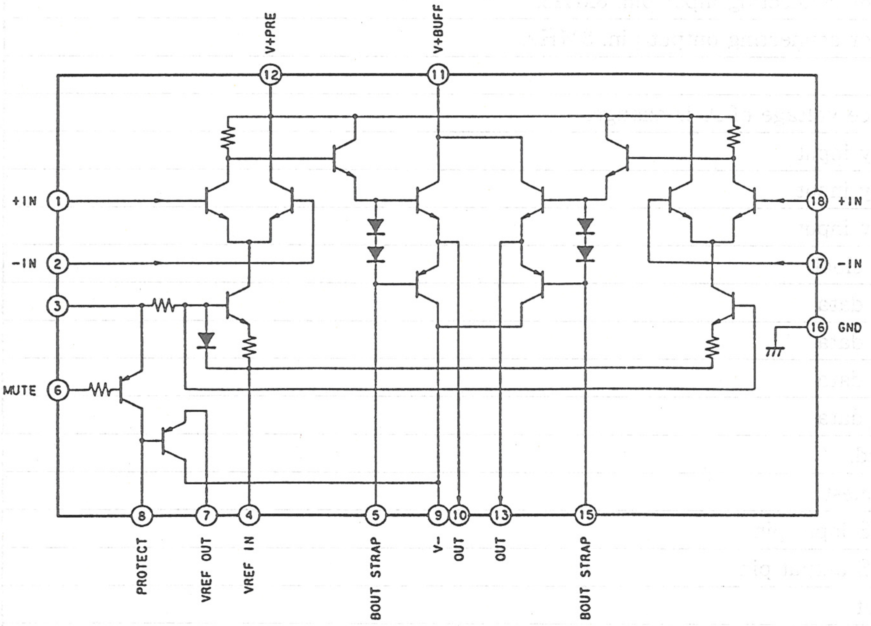
IC304 LB1641


T.S.D
O.C.P
MOTOR DRIVE
MOTOR DRIVE
FWD/REV/STOP CONTROL LOGIC
1
2
3
4
5
6
7
8
9
10
GND
MOTOR DRIVE
NOISE FILTER
CLAMP
FWD.IN
REV.IN
VCC 1
VCC 2
NOISE FILTER
MOTOR DRIVE

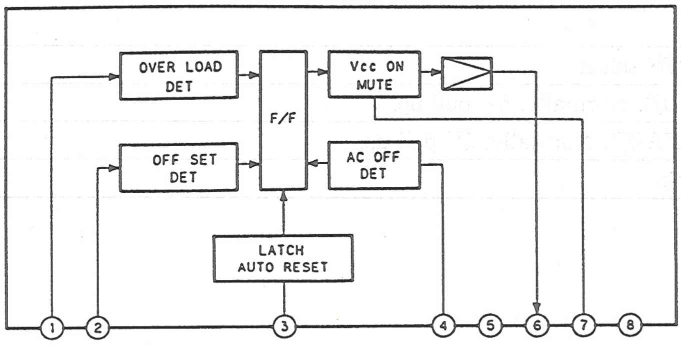
IC103 CXD2565M


INIT 1
SYSM 2
ATT 3
SHIFT 4
LATCH 5
768FS 6
TEST1 7
D Vss 8
TEST2 9
BCK 10
DATA 11
LRCK 12
MUTE L 13
MUTE R 14
MODE
TIMING CIRCUIT
S/P
MUTE CIRCUIT
ATT
DC DITHER
AC DITHER
FIR3
FIR2
FIR1
IIR
SAMPLE HOLD (X1)
3RD ORDER NOISE SHAPER
PLM
CLOCK GENERATOR
PLM
28 D Vdd 2
27 L1 (+)
26 A Vdd L
25 L2 (+)
24 A Vss L
23 X Vss
22 X IN
21 X OUT
20 X Vdd
19 A Vss R
18 R2 (+)
17 A Vdd R
16 R1 (+)
15 D Vdd 1

IC1201 STK4172-MK2 (AEP, EE)
STK4152-MK2K (E, AUS)


V+PRE
12
V+BUFF
11
+IN 1
-IN 2
3
MUTE 6
18 +IN
17 -IN
16 GND
8 PROTECT
7 VREF OUT
4 VREF IN
5 BOUT STRAP
9 V-
10 OUT
13 OUT
15 BOUT STRAP

IC1202 μPC1237HA


OVER LOAD DET
OFF SET DET
F/F
Vcc ON MUTE
AC OFF DET
LATCH AUTO RESET
1
2
3
4
5
6
7
8

5-14. PIN DESCRIPTIONS

• IC303 TMP87CH46N-4067

Pin No.	Pin Name	I/O	Pin Description
1	DATA	O	Command data to CXD2515Q.
2	CLK	O	Command clock to CXD2515Q.
3	PLAY	O	LED of PLAY.
4	SUBQ	I	To Q code output of CXD2515Q.
5	SQCLK	O	Clock of on read Q code.
6	PRGL	—	Not used.
7	XLT	O	For CXD2515Q latch.
8	SCOR	I	Large frame syncronization signal. 75Hz.
9	PAUSE	O	LED of PAUSE.
10	ICSW	O	CD power supply control pin. OFF : L, ON : H.
11	AMUTE	O	Mute. To CXD2515Q.
12	SCLK	O	Servo mode for read clock.
13	LDON	O	Laser diode ON/OFF.
14	—	—	Not used.
15	—	—	Not used.
16	SENSE	I	SENSE of CXD2515Q.
17	TEST	I	Connect to GND.
18	RESET	I	Reset pin of microcomputer.
19	X1	I	Oscillator connecting input pin. 8MHz.
20	X2	O	Oscillator connecting output pin. 8MHz.
21	GND	—	GND
22	VAREF	I	Reference voltage of A/D change.
23	KEYIN0	I	A/D key input
24	KEYIN1	I	A/D key input
25	KEYIN2	I	A/D key input
26	DPCLK	O	Display clock
27	DPDAT0	O	Display data
28	DPDAT1	O	Display data
29	DPDAT2	O	Display data
30	DPDAT3	O	Display data
31	EMPH	—	Not used.
32	KEYREQ	I	Key request
33	AUBIN	I	AU BUS input pin
34	AUBOUT	O	AU BUS output pin
35	LODOUT	O	Tray out
36	LODIN	O	Tray in
37	OUTSW	I	Tray out switch
38	INSW	I	Tray in switch
39	A-FUNC	I	Auto function ON/OFF select
40	ADJ	I	CD test mode pin (ADJ). Normally, 5V pull up.
41	AFADJ	I	CD test mode pin (AFADJ). Normally, 5V pull up.
42	+5V	—	+5V power supply pin

● IC601 μPD78042GF-053-3B9

Pin No.	Pin Name	I/O	Pin Description
1	7G	O	FL tube digit output
2	6G	O	FL tube digit output
3	5G	O	FL tube digit output
4	4G	O	FL tube digit output
5	3G	O	FL tube digit output
6	2G	O	FL tube digit output
7	1G	O	FL tube digit output
8	VDD	—	Microcomputer power (5V)
9	CL	O	Serial clock output to LC7218 (PLL IC).
10	SO/IF COUNT NG	O	Serial data output to LC7218 (PLL IC).
11	SI	I	Serial data input from LC7218 (PLL IC).
12	CE/TIMER CLOCK	I	Chip enable input from LC7218 (PLL IC).
13	TUNED IN	I	Modulation signal from tuner block. (L···Field)
14	STEREO IN	I	Stereo signal from tuner block. (L···FM STEREO received)
15	MUTING	O	Audio mute (L : Mute)
16	AUX. OUT	—	Not used.
17	RESET	—	Microcomputer reset pin
18	FUNCTION A	O	Function control
19	FUNCTION B	O	Function control
20	AVSS	—	A/D GND for key input.
21	DISPLAY. DATA. 3	I	CD display data bit 3
22	DISPLAY. DATA. 2	I	CD display data bit 2
23	DISPLAY. DATA. 1	I	CD display data bit 1
24	DISPLAY. DATA. 0	I	CD display data bit 0
25	AUB. OUT	O	AU BUS output
26	RELAY	—	Not used.
27	KEY IN1	I	Key input (A/D change line 1)
28	KEY IN0	I	Key input (A/D change line 0)
29	AVDD	—	A/D power for key input (5V)
30	AVREF	—	A/D reference voltage (5V)
31	CD. BUSY	I	At H, CD is Active. (At H, tuner is fundamentally not operated.)
32	—	—	Not used.
33	GND	—	Microcomputer GND
34	X1	—	Crystal connection pin for Main•clock oscillator.
35	X2	—	Crystal connection pin for Main•clock oscillator.
36	VIDEO. LED	O	VIDEO function LED
37	TAPE. LED	O	Tape function LED
38	CD. LED	O	CD function LED
39	TUNER. LED	O	Tuner function LED
40	PHONO. LED	O	Phono function LED
41	EQ. C	O	Preset•equalizer control
42	EQ. B	O	Preset•equalizer control
43	EQ. A	O	Preset•equalizer control
44	HOLD	I	Power cut detection pin (Normally : H, AC no connect : L)

Pin No.	Pin Name	I/O	Pin Description
45	CD. CLOCK	I	CD display data clock
46	SIRCS IN	I	SIRCS input
47	AUB. IN	I	AU BUS input
48	—	—	Connect to GND.
49	FUNCTION. C	—	Not used.
50	VOL. B	O	Volume control (VOL DOWN)
51	VOL. A	O	Volume control (VOL UP)
52	VDD	—	Microcomputer power (5V)
53	—	—	Not used.
54	DIODE. IN2	I	Distination•model discrimination input ＊1
55	DIODE. IN1	I	Distination•model discrimination input ＊1
56	S20	O	FL tube segment output
57	S19	O	FL tube segment output
58	S18	O	FL tube segment output
59	S17	O	Distination•model discrimination output ＊1
60	S16	O	Distination•model discrimination output ＊1
61	S15	O	FL tube segment output
62	S14	O	FL tube segment output
63	S13	O	FL tube segment output
64	S12	O	FL tube segment output
65	S11	O	FL tube segment output
66	S10	O	FL tube segment output
67	S9	O	FL tube segment output
68	S8	O	FL tube segment output
69	S7	O	FL tube segment output
70	S6	O	FL tube segment output
71	V. LOAD	—	Minus voltage for FL tube.
72	S5	O	FL tube segment output
73	S4	O	FL tube segment output
74	S3	O	FL tube segment output
75	S2	O	FL tube segment output
76	S1	O	FL tube segment output
77	S0	O	FL tube segment output
78	VOL. LED	O	Volume LED output
79	9G	O	FL tube digit output
80	8G	O	FL tube digit output

＊1

[DIODE MATRIX] (Pin No. is IC601's pin No.)

Output \ Input	Pin(60)	Pin(59)
Pin(55)	A	×
Pin(54)	B	○

× : Not use for diode.
○ : Use for diode.

[DISTINATION SELECT]

	E, AUS	EE
A	○	×
B	×	○

- Abbreviations
  AUS : Australian model
  EE : East European model

SECTION 6
EXPLODED VIEWS

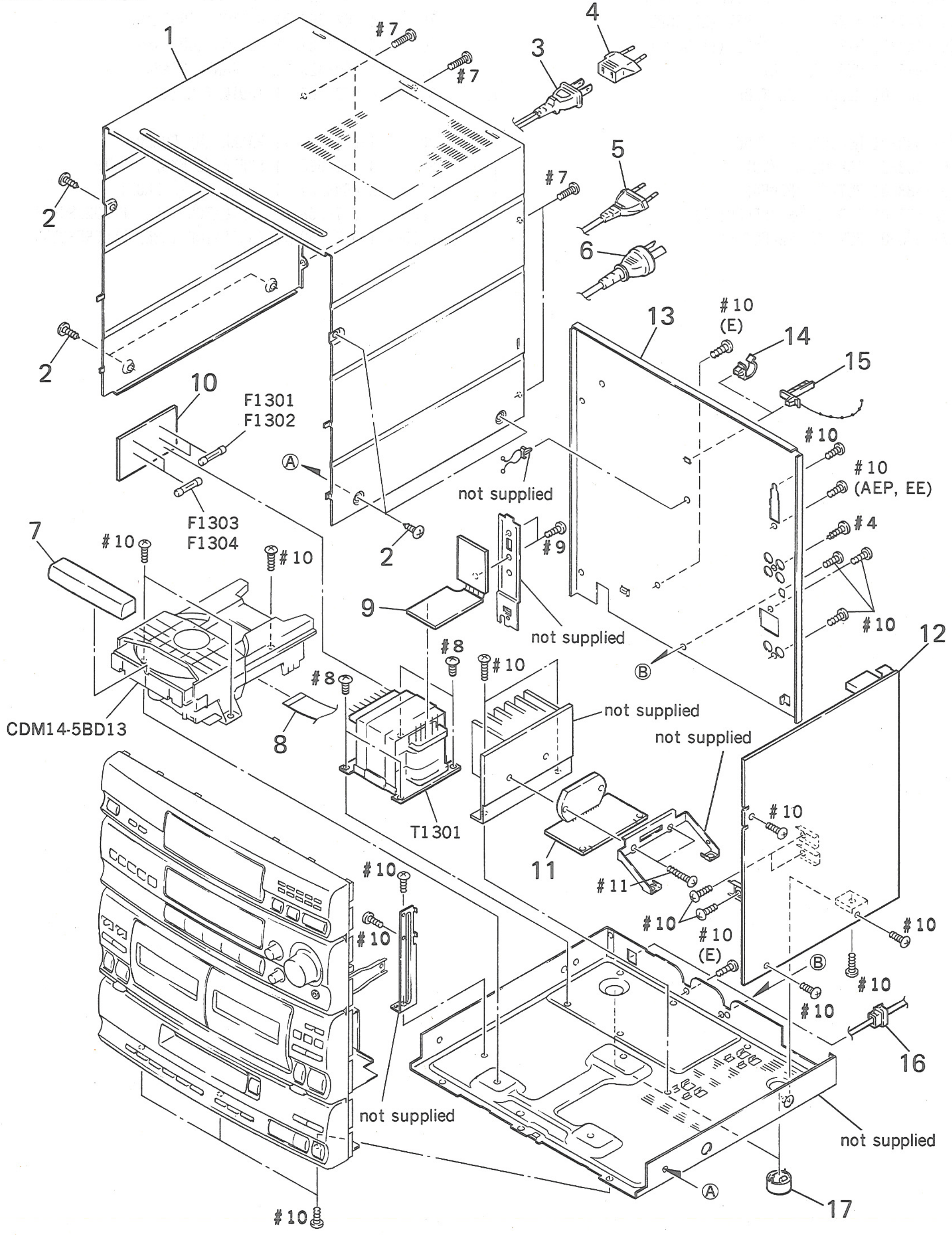
NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- Abbreviations

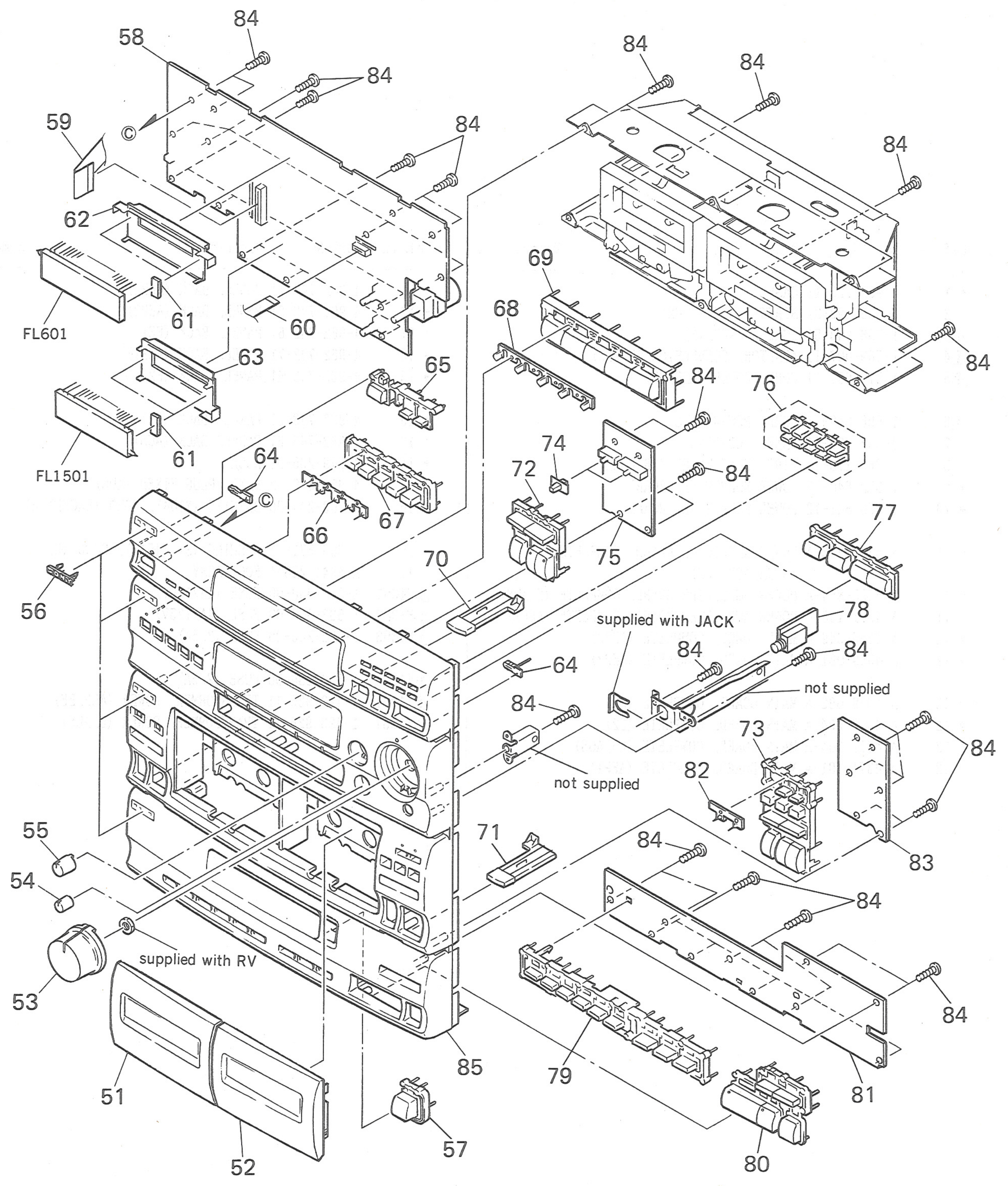
AEP1 : AEP unit with no PHONO POWER SOURCE (Made in Malaysia)
AEP2 : AEP unit with no PHONO POWER SOURCE (Made in Indonesia)
AEP3 : AEP unit with PHONO POWER SOURCE (Made in Indonesia)
EE : East European model
AUS : Australian model
E2 : AC 120V Area model
E3 : AC 240V Area model

6-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 1	4-962-725-11	CASE	
2	3-363-099-01	SCREW (CASE 3 TP2)	
⚠3	1-558-943-51	CORD, POWER (E)	
⚠4	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)	
⚠5	1-575-651-11	CORD, POWER (AEP, EE)	
⚠6	1-696-848-21	CORD, POWER (AUS)	
7	4-962-674-01	PANEL, LOADING	
8	1-765-176-11	WIRE (FLAT TYPE) (26 CORE)	
* 9	1-650-840-12	POWER SUPPLY (A) BOARD	
* 10	1-650-841-12	POWER SUPPLY (B) BOARD	
* 11	A-4365-948-A	POWER AMPLIFIER BOARD, COMPLETE (AEP2, AEP3, EE)	
* 11	A-4365-954-A	POWER AMPLIFIER BOARD, COMPLETE (E, AUS)	
* 11	A-4371-100-A	POWER AMPLIFIER BOARD, COMPLETE (AEP1)	
* 12	A-4365-949-A	MAIN BOARD, COMPLETE (AEP3)	
* 12	A-4369-081-A	MAIN BOARD, COMPLETE (AEP2)	
* 12	A-4369-092-A	MAIN BOARD, COMPLETE (EE)	
* 12	A-4369-594-A	MAIN BOARD, COMPLETE (E2)	
* 12	A-4371-104-A	MAIN BOARD, COMPLETE (E3, AUS)	
* 12	A-4371-101-A	MAIN BOARD, COMPLETE (AEP1)	
* 13	4-962-742-11	PANEL, BACK (AEP2)	
* 13	4-962-742-21	PANEL, BACK (AEP3)	
* 13	4-962-742-61	PANEL, BACK (EE)	
* 13	4-962-742-71	PANEL, BACK (AEP1)	
* 13	4-962-743-41	PANEL, BACK (E2)	
* 13	4-962-743-51	PANEL, BACK (E3)	
* 13	4-962-743-61	PANEL, BACK (AUS)	
* 14	4-949-235-01	HOOK	
15	4-956-370-12	BAND, PLUG FIXED (AUS)	
* 16	3-703-244-00	BUSHING (2104), CORD (EXCEPT E)	
16	3-703-571-11	BUSHING (S) (4516), CORD (E)	
17	X-4941-228-1	FOOT ASSY	
⚠F1301	1-532-350-00	FUSE (4A/125V)	
⚠F1302	1-532-350-00	FUSE (4A/125V)	
⚠F1303	1-532-286-00	FUSE (2. 5A)	
⚠F1304	1-532-286-00	FUSE (2. 5A)	
⚠T1301	1-423-925-11	TRANSFORMER, POWER (AEP, EE)	
⚠T1301	1-423-926-11	TRANSFORMER, POWER (E, AUS)	

6-2. FRONT PANEL SECTION



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FL601
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FL1501
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supplied with JACK
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64
not supplied
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73
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not supplied
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84
supplied with RV
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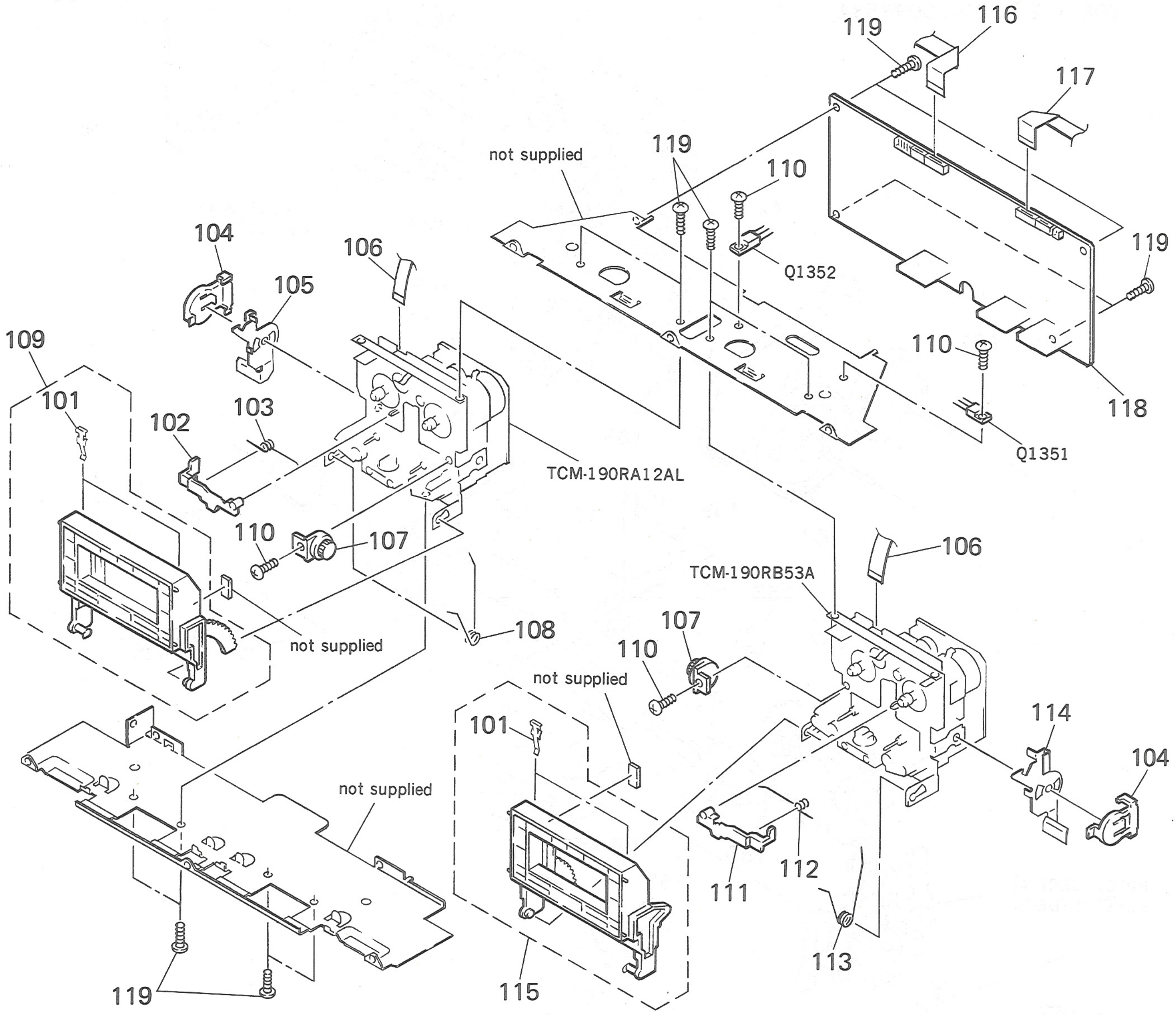
Ref. No.	Part No.	Description	Remark
51	A-4353-833-A	LID (A) ASSY, CASSETTE	
52	A-4353-834-A	LID (B) ASSY, CASSETTE	
53	4-955-635-02	KNOB (V)	
54	4-955-744-01	KNOB (BA)	
55	4-962-703-01	KNOB (SUR)	
56	4-962-708-11	EMBLEM (4-A), SONY	
57	4-962-665-01	BUTTON (OPEN)	
* 58	A-4365-945-A	PANEL BOARD, COMPLETE (AEP2, AEP3)	
* 58	A-4369-090-A	PANEL BOARD, COMPLETE (EE)	
* 58	A-4369-592-A	PANEL BOARD, COMPLETE (E, AUS)	
* 58	A-4371-095-A	PANEL BOARD, COMPLETE (AEP1)	
59	1-751-747-11	WIRE (FLAT TYPE) (23 CORE)	
60	1-590-459-11	WIRE, FLAT TYPE (11 CORE)	
* 61	4-949-935-21	CUSHION (FL)	
* 62	4-942-301-01	HOLDER, FL TUBE	
* 63	4-962-699-01	HOLDER, FL TUBE	
64	4-962-682-01	INDICATOR (VO)	
65	4-962-688-01	BUTTON (POWER)	
66	4-962-677-01	INDICATOR (SELECT 5)	
67	4-962-678-01	BUTTON (SELECT 5)	
68	4-962-680-01	INDICATOR (FU)	
69	4-962-681-01	BUTTON (FU)	
70	4-962-709-01	BUTTON (EJECT) (L)	
71	4-962-710-01	BUTTON (EJECT) (R)	
72	X-4944-378-1	DECK ASSY, BUTTON (A)	
73	X-4944-379-1	DECK ASSY, BUTTON (B)	
74	4-962-707-01	KNOB, SLIDE	
* 75	1-650-780-11	PANEL (A) BOARD	
76	4-962-676-01	BUTTON (PRESET)	
77	4-962-661-01	BUTTON (BAND)	
* 78	1-650-426-11	H.P. BOARD	
79	4-962-666-01	BUTTON (PROGRAM)	
80	X-4944-275-1	BUTTON (CD) ASSY	
* 81	1-650-425-11	CD PANEL BOARD	
82	4-962-766-01	INDICATOR (DUB)	
* 83	1-650-781-11	PANEL (B) BOARD	
84	4-951-620-01	SCREW (2.6X8), +BVTP	
85	X-4944-676-1	PANEL ASSY, FRONT	
FL601	1-517-258-11	INDICATOR TUBE, FLUORESCENT	
FL1501	1-517-260-11	INDICATOR TUBE, FLUORESCENT	

6-3. MECHANISM DECK BRACKET SECTION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not supplied
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Q1352
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118
Q1351
TCM-190RA12AL
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107
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TCM-190RB53A
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not supplied
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not supplied
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104
not supplied
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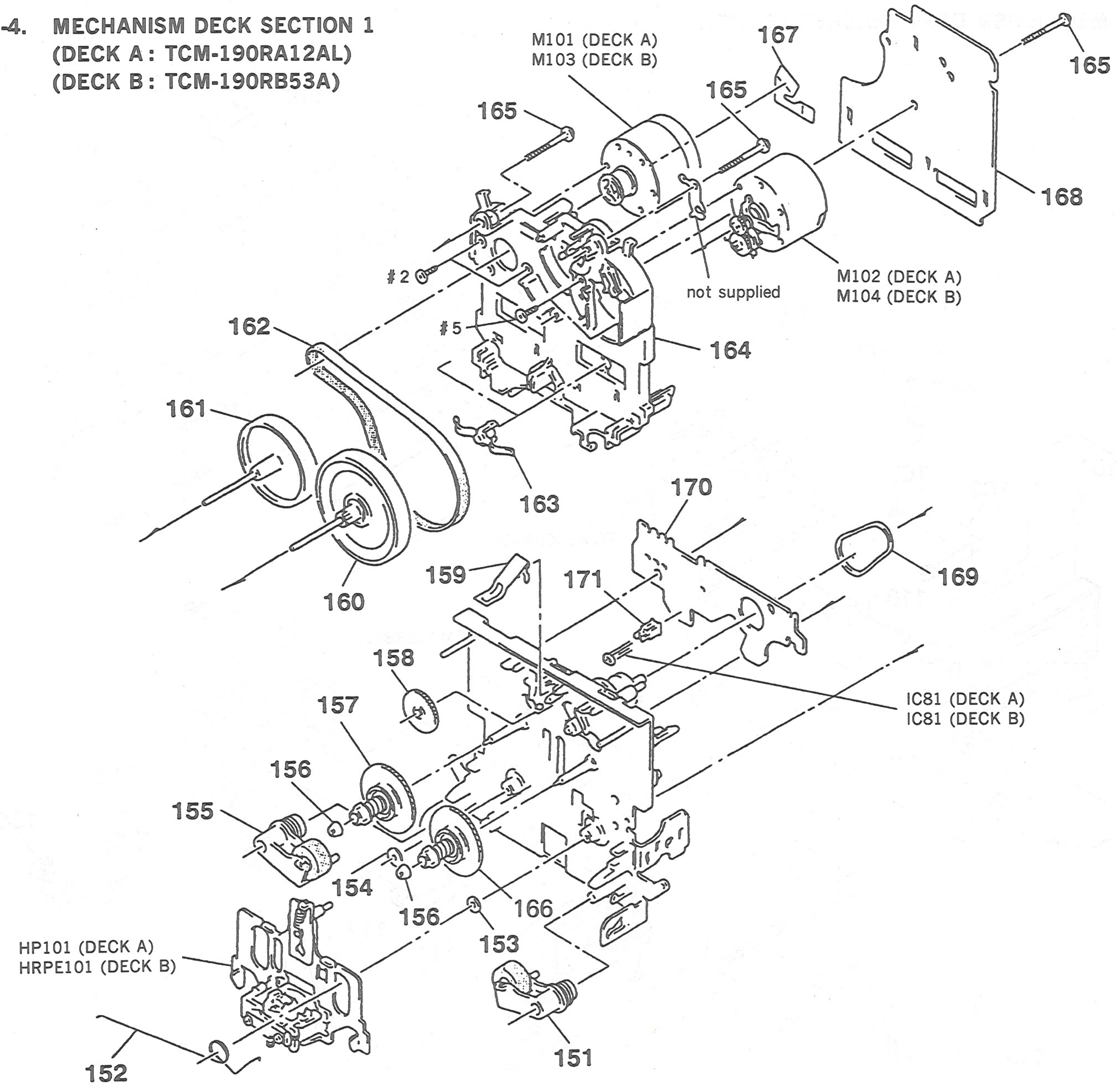
Ref. No.	Part No.	Description	Remark
101	3-308-823-11	DETENT, CASSETTE	
102	3-354-955-01	LEVER (EJECT SAFTY LEVER L)	
103	3-354-961-01	SPRING (EJECT SAFTY SPRING L)	
104	3-354-957-01	JOINT (LOCK LEVER)	
* 105	3-354-953-01	LEVER (LOCK LEVER L)	
106	1-590-485-11	WIRE, FLAT TYPE (7 CORE)	
107	3-354-963-01	DAMPER	
108	3-354-959-01	SPRING (LOADING L), TORSION	
109	A-4325-163-A	HOLDER (L) ASSY, CASSETTE	
110	4-951-620-01	SCREW (2.6X8), +BVTP	
111	3-354-956-01	LEVER (EJECT SAFTY LEVER R)	

Ref. No.	Part No.	Description	Remark
112	3-354-962-01	SPRING (EJECT SAFTY SPRING R)	
113	3-354-960-01	SPRING (LOADING R), TORSION	
* 114	3-354-954-01	LEVER (LOCK LEVER R)	
115	A-4325-164-A	HOLDER (R) ASSY, CASSETTE	
116	1-751-025-11	WIRE (FLAT TYPE) (9 CORE)	
117	1-751-210-11	WIRE (FLAT TYPE) (13 CORE)	
* 118	A-4369-922-A	MAIN TC BOARD, COMPLETE	
119	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
Q1351	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q1352	8-729-209-15	TRANSISTOR 2SD2012	

6-4. MECHANISM DECK SECTION 1
(DECK A : TCM-190RA12AL)
(DECK B : TCM-190RB53A)


M101 (DECK A)
M103 (DECK B)
167
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#2
#5
not supplied
M102 (DECK A)
M104 (DECK B)
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IC81 (DECK A)
IC81 (DECK B)
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HP101 (DECK A)
HRPE101 (DECK B)
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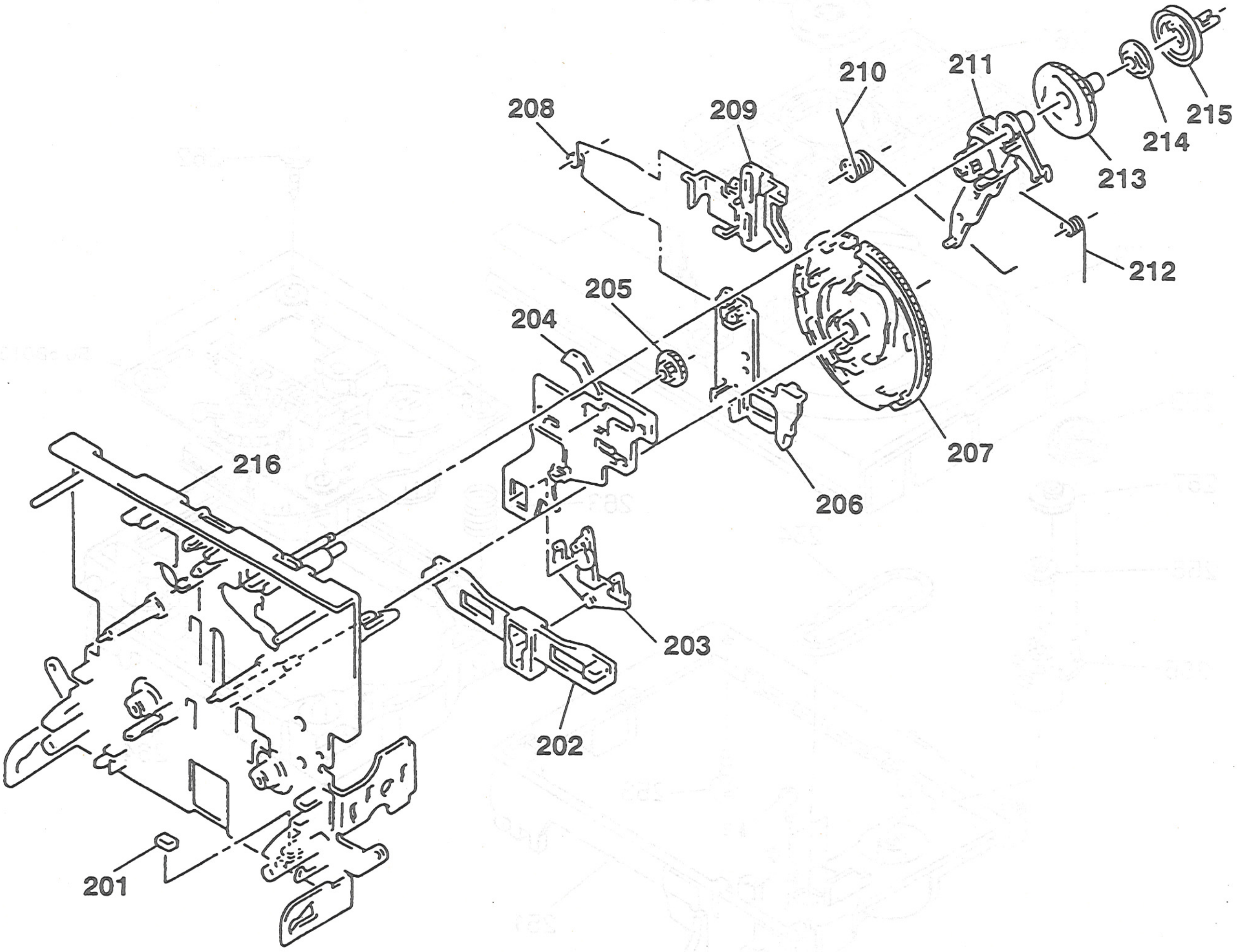
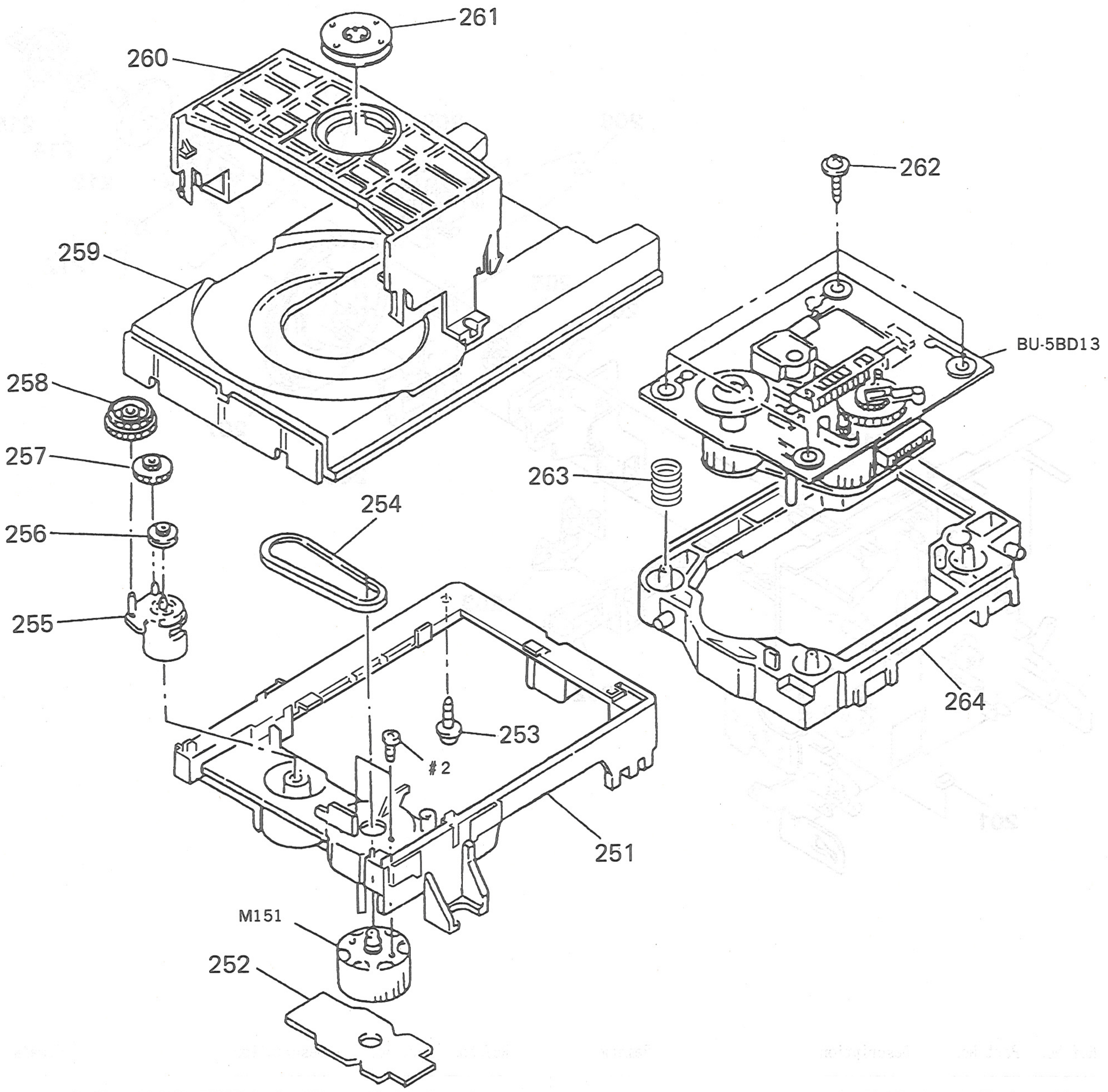
Ref. No.	Part No.	Description	Remark
151	X-3366-047-1	LEVER (PINCH F) ASSY	
152	3-907-362-01	SPRING, TORSION	
153	3-356-713-01	WASHER	
154	3-356-714-01	WASHER	
155	X-3366-048-1	LEVER (PINCH R) ASSY	
156	3-913-841-01	CAP (REEL)	
157	X-3366-971-1	TABLE ASSY (B), REEL	
158	3-359-424-01	GEAR (REV GEAR)	
159	3-359-430-01	SPRING (CASSETTE RETAINER), LEAF	
160	X-3367-629-1	FLYWHEEL (FWD) ASSY	
161	X-3367-630-2	FLYWHEEL (REV) ASSY	
162	3-359-417-01	BELT (FLAT), CAPSTAN	
163	3-575-321-00	RETAINER, THRUST, CAPSTAN	
164	3-359-436-11	BASE (THRUST RETAINER), FITTING	
165	3-359-414-01	SCREW (+PTPWH 2X23)	
166	X-3366-970-1	TABLE ASSY, REEL	
167	1-638-983-11	MOTOR FLEXIBLE BOARD	
* 168	A-2006-623-A	AUDIO (MD-AXM) BOARD, COMPLETE (DECK A)	
* 168	A-2007-134-A	AUDIO (MD-ICD) BOARD, COMPLETE (DECK B)	
169	3-359-466-01	BELT (FR), SQUARE	
* 170	1-638-020-11	LEAF SW (A) BOARD (DECK A)	
* 170	1-638-020-11	LEAF SW (B) BOARD (DECK B)	
171	3-343-419-01	HOLDER (S SENSOR A)	
HP101	A-2003-757-A	BASE ASSY, HEAD (DECK A)	
HRPE101	A-2003-930-A	BASE ASSY, HEAD (DECK B)	
IC81	8-749-924-10	PHOTO REFLECTOR NJL5165K-B (H1) (DECK A)	
IC81	8-749-924-10	PHOTO REFLECTOR NJL5165K-B (H1) (DECK B)	
M101	X-3365-377-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M102	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M103	X-3365-377-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M104	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	

6-5. MECHANISM DECK SECTION 2
(DECK A : TCM-190RA12AL)
(DECK B : TCM-190RB53A)



Ref. No.	Part No.	Description	Remark
201	3-359-469-01	SPACER	
* 202	3-359-425-01	SLIDER (REVERSE SLIDER)	
203	3-359-426-01	LEVER (REVERSE LEVER)	
* 204	3-359-415-01	SLIDER (TRIGGER SLIDER) (DECK A)	
204	3-359-415-11	SLIDER (TRIGGER SLIDER) (DECK B)	
205	3-359-448-01	GEAR (TRIGGER)	
* 206	3-359-427-01	SLIDER (REVERSE SLIDER)	
207	3-359-420-01	GEAR (CAM GEAR)	
208	3-359-454-01	SPRING, TORSION	
209	3-359-429-01	SLIDER (BRAKE PLATE) (DECK A)	
209	3-359-429-11	SLIDER (BRAKE PLATE) (DECK B)	
210	3-359-456-01	SPRING (TRIGGER SPRING), TORSION	
211	X-3366-569-1	ARM ASSY, FR	
212	3-359-453-01	SPRING (FR ARM), TORSION	
213	3-359-419-11	GEAR (FR GEAR)	
214	3-359-421-11	CLUTCH (REEL DISK)	
215	3-359-418-11	PULLEY (FR PULLEY)	
216	X-3359-415-1	CHASSIS ASSY, MECHANICAL (DECK A)	
216	X-3363-790-1	CHASSIS ASSY, MECHANICAL (DECK B)	

6-6. CD MECHANISM SECTION (CDM14-5BD13)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M151
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BU-5BD13
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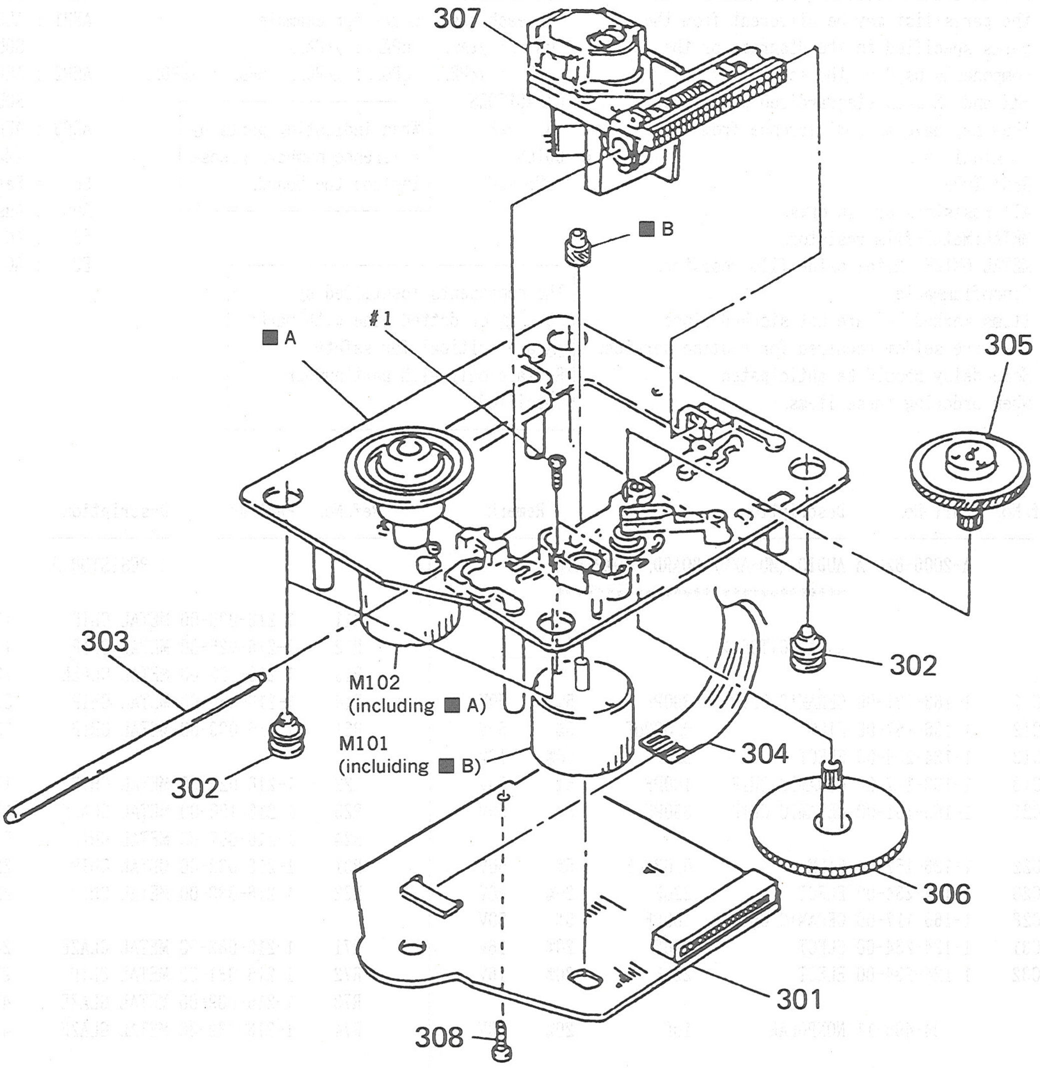
Ref. No.	Part No.	Description	Remark
251	4-933-111-01	CHASSIS (MD)	
252	1-645-721-11	LOADING BOARD	
* 253	4-917-583-21	BRACKET, YOKE	
254	4-927-649-01	BELT	
255	4-933-109-01	CAM	
256	4-927-651-01	PULLEY (S)	
257	4-927-628-01	GEAR (C)	
258	4-933-107-01	GEAR (PL)	
259	4-933-112-01	TABLE, DISC	
260	4-933-110-01	HOLDER (MG)	
* 261	1-452-538-11	MAGNET	
262	4-933-134-01	SCREW (+PTPWH M2.6X6)	
263	4-959-996-01	SPRING (932), COMPRESSION	
264	4-933-129-01	HOLDER (BU)	
M151	A-4604-363-A	MOTOR (L) ASSY	

6-7. OPTICAL PICK-UP BLOCK
(BU-5BD13)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■ B
#1
■ A
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M102
(including ■ A)
M101
(incluiding ■ B)
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The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 301	A-4673-064-A	BD BOARD, COMPLETE	
302	4-951-940-01	INSULATOR (BU)	
303	4-917-565-01	SHAFT, SLED	
304	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
305	4-917-567-01	GEAR (M)	
306	4-917-564-01	GEAR (P), FLATNESS	
⚠307	8-848-144-11	DEVICE, OPTICAL KSS-240A	
308	4-951-620-01	SCREW (2.6X8), +BVTP	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-4917-523-4	MOTOR ASSY (SPINDLE)	

SECTION 7
ELECTRICAL PARTS LIST

AUDIO (MD-AXM) **AUDIO (MD-ICD)**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- Abbreviations

AEP1 : AEP unit with no PHONO POWER SOURCE (Made in Malaysia)
AEP2 : AEP unit with no PHONO POWER SOURCE (Made in Indonesia)
AEP3 : AEP unit with PHONO POWER SOURCE (Made in Indonesia)
EE : East European model
AUS : Australian model
E2 : AC 120V Area model
E3 : AC 240V Area model

Ref. No.	Part No.	Description				Remark
*	A-2006-623-A	AUDIO (MD-AXM) BOARD, COMPLETE ******************************				
		< CAPACITOR >				
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	
C12	1-136-157-00	FILM	0.022uF	5%	50V	
C13	1-124-234-00	ELECT	22uF	20%	16V	
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	
C22	1-136-157-00	FILM	0.022uF	5%	50V	
C23	1-124-234-00	ELECT	22uF	20%	16V	
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C31	1-124-234-00	ELECT	22uF	20%	16V	
C32	1-124-234-00	ELECT	22uF	20%	16V	
C72	1-124-499-11	NONPOLAR	1uF	20%	50V	
		< CONNECTOR >				
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD				
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P				
* CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P				
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P				
		< IC >				
IC31	8-759-106-02	IC	uPC4570G2			
		< JUMPER RESISTOR >				
JW1	1-216-295-00	METAL CHIP	0	5%	1/10W	
JW51	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW52	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW53	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW54	1-216-296-00	METAL GLAZE	0	5%	1/8W	
		< TRANSISTOR >				
Q71	8-729-216-22	TRANSISTOR	2SA1162-G			
		< RESISTOR >				
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R12	1-216-025-00	METAL CHIP	100	5%	1/10W	
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W	
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R22	1-216-025-00	METAL CHIP	100	5%	1/10W	
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W	
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R31	1-216-033-00	METAL CHIP	220	5%	1/10W	
R32	1-216-033-00	METAL CHIP	220	5%	1/10W	
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R73	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R74	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
		< VARIABLE RESISTOR >				
RV11	1-241-761-11	RES, ADJ, CARBON 1K				
RV21	1-241-761-11	RES, ADJ, CARBON 1K				
RV71	1-241-630-11	RES, ADJ, CARBON 10K				
RV72	1-241-630-11	RES, ADJ, CARBON 10K				
**						
*	A-2007-134-A	AUDIO (MD-ICD) BOARD, COMPLETE ******************************				
		< CAPACITOR >				
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	
C12	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C13	1-136-153-00	FILM	0.01uF	5%	50V	
C14	1-126-177-11	ELECT	100uF	20%	10V	
C15	1-124-234-00	ELECT	22uF	20%	16V	
C16	1-136-273-91	FILM	75PF	5%	630V	
C17	1-164-080-11	CERAMIC	390PF	10%	50V	
C18	1-163-103-00	CERAMIC CHIP	27PF	5%	50V	

Ref. No.	Part No.	Description				Remark
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	
C22	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C23	1-136-153-00	FILM	0.01uF	5%	50V	
C24	1-126-177-11	ELECT	100uF	20%	10V	
C25	1-124-234-00	ELECT	22uF	20%	16V	
C26	1-136-273-91	FILM	75PF	5%	630V	
C27	1-164-080-11	CERAMIC	390PF	10%	50V	
C28	1-163-103-00	CERAMIC CHIP	27PF	5%	50V	
C31	1-124-234-00	ELECT	22uF	20%	16V	
C32	1-124-234-00	ELECT	22uF	20%	16V	
C33	1-124-234-00	ELECT	22uF	20%	16V	
C51	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	
C52	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	
C53	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V	
C54	1-136-559-11	FILM	0.0047uF	5%	630V	
C56	1-164-505-11	CERAMIC CHIP	2.2uF		16V	
C57	1-164-346-11	CERAMIC CHIP	1uF		16V	
C58	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V	
C72	1-124-499-11	NONPOLAR	1uF	20%	50V	
		< CONNECTOR >				
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD				
* CNJ33	1-580-782-11	CONNECTOR, BOARD TO BOARD				
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P				
* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P				
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P				
		< IC >				
IC31	8-759-249-21	IC uPC1330GR-T1				
IC32	8-759-106-02	IC uPC4570G2				
		< JUMPER RESISTOR >				
JW1	1-216-295-00	METAL CHIP	0	5%	1/10W	
JW2	1-216-295-00	METAL CHIP	0	5%	1/10W	
JW11	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW12	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW13	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW14	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW15	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW16	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW17	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW18	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW19	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW20	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW21	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW22	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW23	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW24	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW25	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW26	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JW27	1-216-296-00	METAL GLAZE	0	5%	1/8W	
		< COIL >				
L11	1-410-780-11	INDUCTOR	27mH			
L21	1-410-780-11	INDUCTOR	27mH			
		< TRANSISTOR >				
Q51	8-729-011-92	TRANSISTOR	2SC2001TP-K1K2			
Q52	8-729-011-92	TRANSISTOR	2SC2001TP-K1K2			
Q53	8-729-111-29	TRANSISTOR	2SD1616A-K			
Q71	8-729-216-22	TRANSISTOR	2SA1162-G			
		< RESISTOR >				
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R12	1-216-033-00	METAL CHIP	220	5%	1/10W	
R13	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R14	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R15	1-216-107-00	METAL CHIP	270K	5%	1/10W	
⚠R16	1-249-430-11	CARBON	12K	5%	1/4W	F
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R22	1-216-033-00	METAL CHIP	220	5%	1/10W	
R23	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R24	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R25	1-216-107-00	METAL CHIP	270K	5%	1/10W	
⚠R26	1-249-430-11	CARBON	12K	5%	1/4W	F
R31	1-216-033-00	METAL CHIP	220	5%	1/10W	
R32	1-216-033-00	METAL CHIP	220	5%	1/10W	
R33	1-216-073-00	METAL CHIP	10K	5%	1/10W	
⚠R41	1-249-393-11	CARBON	10	5%	1/4W	F
⚠R42	1-249-393-11	CARBON	10	5%	1/4W	F
R51	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R52	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R54	1-216-309-00	METAL CHIP	5.6	5%	1/10W	
R55	1-216-309-00	METAL CHIP	5.6	5%	1/10W	
R56	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R73	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R74	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
		< VARIABLE RESISTOR >				
RV11	1-241-761-11	RES, ADJ, CARBON 1K				
RV12	1-238-551-11	RES, ADJ, CARBON 220K				
RV21	1-241-761-11	RES, ADJ, CARBON 1K				
RV22	1-238-551-11	RES, ADJ, CARBON 220K				
RV71	1-241-630-11	RES, ADJ, CARBON 10K				

The components identified by
mark ⚠ or dotted line with mark.
⚠ are critical for safety.
Replace only with part number
specified.

AUDIO (MD-ICD) BD

Ref. No.	Part No.	Description	Remark
RV72	1-241-630-11	RES, ADJ, CARBON 10K	
		< COIL >	
T51	1-406-419-11	COIL, BIAS OSCILLATION	

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Ref. No.	Part No.	Description	Remark
*	A-4673-064-A	BD BOARD, COMPLETE *****************	
		< CAPACITOR >	
C101	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
C102	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C103	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
C105	1-135-155-21	TANTALUM CHIP 4.7uF 10% 16V	
C106	1-164-346-11	CERAMIC CHIP 1uF 16V	
C107	1-164-505-11	CERAMIC CHIP 2.2uF 16V	
C108	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C109	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V	
C110	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C111	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C112	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C113	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C123	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C124	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
C131	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C132	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C133	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C153	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C159	1-163-019-00	CERAMIC CHIP 0.0068uF 10% 50V	
C161	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C177	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C178	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C179	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C181	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C182	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C183	1-135-156-21	TANTALUM CHIP 6.8uF 10% 10V	
C184	1-135-156-21	TANTALUM CHIP 6.8uF 10% 10V	
C185	1-135-156-21	TANTALUM CHIP 6.8uF 10% 10V	
C186	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C187	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C188	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C191	1-163-091-00	CERAMIC CHIP 8PF 50V	
C192	1-163-091-00	CERAMIC CHIP 8PF 50V	
C193	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C194	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C195	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C196	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
C197	1-163-038-00	CERAMIC CHIP 0.1uF 25V	

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN101	1-580-875-11	SOCKET, CONNECTOR (SMT) 26P	
CN102	1-580-866-11	SOCKET, CONNECTOR (SMT) 12P	
		< IC >	
IC101	8-752-367-16	IC CXD2515Q-1	
IC102	8-759-176-09	IC BA6392FP	
IC103	8-752-360-60	IC CXD2565M-1	
		< COIL >	
L101	1-414-234-11	INDUCTOR, FERRITE BEAD	
L102	1-414-234-11	INDUCTOR, FERRITE BEAD	
L103	1-414-234-11	INDUCTOR, FERRITE BEAD	
L104	1-216-001-00	METAL CHIP 10 5% 1/10W	
L105	1-216-295-00	METAL CHIP 0 5% 1/10W	
L106	1-414-234-11	INDUCTOR, FERRITE BEAD	
L107	1-216-295-00	METAL CHIP 0 5% 1/10W	
L108	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< RESISTOR >	
R101	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R102	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R103	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R104	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R105	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R106	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R107	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R108	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R109	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R110	1-216-025-00	METAL CHIP 100 5% 1/10W	
R112	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R122	1-216-295-00	METAL CHIP 0 5% 1/10W	
R123	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R124	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R125	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R126	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R127	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R131	1-216-037-00	METAL CHIP 330 5% 1/10W	
R158	1-216-111-00	METAL CHIP 390K 5% 1/10W	
R159	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R181	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R182	1-216-080-00	METAL CHIP 20K 5% 1/10W	
R183	1-216-080-00	METAL CHIP 20K 5% 1/10W	
R184	1-216-080-00	METAL CHIP 20K 5% 1/10W	
R185	1-216-080-00	METAL CHIP 20K 5% 1/10W	
R187	1-216-035-00	METAL CHIP 270 5% 1/10W	
R188	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R189	1-414-234-11	INDUCTOR, FERRITE BEAD	

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	
		< VIBRATOR >	
X101	1-579-904-11	VIBRATOR, CRYSTAL (33.8MHz)	
		**	
*	1-650-425-11	CD PANEL BOARD *************	
		< DIODE >	
D201	8-719-046-38	LED SEL5821A-TH8C (▮▮)	
D202	8-719-046-42	LED SEL5421E-TH8C (▷)	
		< TRANSISTOR >	
Q201	8-729-900-89	TRANSISTOR DTC144ES	
Q202	8-729-900-89	TRANSISTOR DTC144ES	
		< RESISTOR >	
R201	1-249-411-11	CARBON 330 5% 1/4W	
R202	1-249-409-11	CARBON 220 5% 1/4W	
R203	1-249-417-11	CARBON 1K 5% 1/4W	
R204	1-249-418-11	CARBON 1.2K 5% 1/4W	
R205	1-249-418-11	CARBON 1.2K 5% 1/4W	
R206	1-249-417-11	CARBON 1K 5% 1/4W	
R207	1-249-418-11	CARBON 1.2K 5% 1/4W	
R208	1-249-418-11	CARBON 1.2K 5% 1/4W	
R209	1-249-419-11	CARBON 1.5K 5% 1/4W	
R210	1-249-417-11	CARBON 1K 5% 1/4W	
R211	1-249-418-11	CARBON 1.2K 5% 1/4W	
R212	1-249-418-11	CARBON 1.2K 5% 1/4W	
R213	1-249-419-11	CARBON 1.5K 5% 1/4W	
R214	1-249-420-11	CARBON 1.8K 5% 1/4W	
		< SWITCH >	
S201	1-554-303-21	SWITCH, TACTILE (■)	
S202	1-554-303-21	SWITCH, TACTILE (▷)	
S203	1-554-303-21	SWITCH, TACTILE (▮▮)	
S204	1-554-303-21	SWITCH, TACTILE (▶▶ ⏭)	
S205	1-554-303-21	SWITCH, TACTILE (⏏ OPEN/CLOSE)	
S206	1-554-303-21	SWITCH, TACTILE (⏮ ◀◀)	
S207	1-554-303-21	SWITCH, TACTILE (PROGRAM (PLAY MODE))	
S208	1-554-303-21	SWITCH, TACTILE (REPEAT)	
S209	1-554-303-21	SWITCH, TACTILE (EDIT)	
S210	1-554-303-21	SWITCH, TACTILE (CONTINUE (PLAY MODE))	
S211	1-554-303-21	SWITCH, TACTILE (SHUFFLE (PLAY MODE))	
S212	1-554-303-21	SWITCH, TACTILE (TIME)	
S213	1-554-303-21	SWITCH, TACTILE (CLEAR)	

Ref. No.	Part No.	Description	Remark
S214	1-554-303-21	SWITCH, TACTILE (CHECK)	
S215	1-554-303-21	SWITCH, TACTILE (MUSIC SCAN)	
		**	
*	1-650-426-11	H.P. BOARD **********	
		< JACK >	
J1201	1-569-113-11	JACK, LARGE TYPE (HEADPHONES)	
		< CAPACITOR >	
C1237	1-162-282-31	CERAMIC 100PF 10% 50V	
C1238	1-162-282-31	CERAMIC 100PF 10% 50V	
		**	
*	1-638-020-11	LEAF SW (A) BOARD ****************	
		< CONNECTOR >	
* CNP81	1-568-850-11	SOCKET, CONNECTOR 7P	
		< IC >	
IC81	8-749-924-10	PHOTO REFLECTOR NJL5165K-B(H1)	
		< RESISTOR >	
R84	1-249-417-11	CARBON 1K 5% 1/4W	
R85	1-249-408-11	CARBON 180 5% 1/4W	
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP DET)	
S82	1-571-281-21	SWITCH, LEAF (Cr02 DET)	
S86	1-571-281-21	SWITCH, LEAF (HALF DET)	
		**	
*	1-638-020-11	LEAF SW (B) BOARD ****************	
		< CONNECTOR >	
* CNP81	1-568-850-11	SOCKET, CONNECTOR 7P	
		< PHOTO REFLECTOR >	
IC81	8-749-924-10	PHOTO REFLECTOR NJL5165K-B(H1)	
		< RESISTOR >	
R81	1-249-414-11	CARBON 560 5% 1/4W	
R82	1-247-818-11	CARBON 300 5% 1/4W	
R83	1-247-834-11	CARBON 1.3K 5% 1/4W	
R84	1-249-417-11	CARBON 1K 5% 1/4W	
R85	1-249-408-11	CARBON 180 5% 1/4W	

LEAF SW (B) LOADING MAIN

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP DET)			
S82	1-571-281-21	SWITCH, LEAF (CrO2 DET)			
S84	1-571-281-21	SWITCH, LEAF (ERASE PROOF (SIDE A))			
S85	1-571-281-21	SWITCH, LEAF (ERASE PROOF (SIDE B))			
S86	1-571-281-21	SWITCH, LEAF (HALF DET)			

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Ref. No.	Part No.	Description			Remark
*	1-645-721-11	LOADING BOARD ************			
		< CONNECTOR >			
* CN151	1-568-943-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)			
S152	1-572-086-11	SWITCH, LEAF (LOAD IN)			

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Ref. No.	Part No.	Description			Remark
*	A-4365-949-A	MAIN BOARD, COMPLETE (AEP3)			
*	A-4369-081-A	MAIN BOARD, COMPLETE (AEP2)			
*	A-4369-092-A	MAIN BOARD, COMPLETE (EE)			
*	A-4369-594-A	MAIN BOARD, COMPLETE (E2)			
*	A-4371-101-A	MAIN BOARD, COMPLETE (AEP1)			
*	A-4371-104-A	MAIN BOARD, COMPLETE (E3, AUS) *******************			
	4-352-844-01	PIN, LEAD, COATING (AEP, EE)			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
	7-682-547-09	SCREW +BVTT 3X6 (S)			
		< CAPACITOR >			
C1	1-161-379-00	CERAMIC	0.01uF	20%	25V
C2	1-124-477-11	ELECT	47uF	20%	25V
C3	1-161-379-00	CERAMIC	0.01uF	20%	25V
C4	1-161-379-00	CERAMIC (EXCEPT AEP1, EE)	0.01uF	20%	25V
C4	1-164-159-11	CERAMIC (AEP1, EE)	0.1uF		50V
C5	1-164-159-11	CERAMIC	0.1uF		50V
C6	1-161-379-00	CERAMIC (EXCEPT EE)	0.01uF	20%	25V
C6	1-161-494-00	CERAMIC (EE)	0.022uF		25V
C7	1-124-477-11	ELECT (AEP1, EE)	47uF	20%	25V
C7	1-126-934-11	ELECT (EXCEPT AEP1, EE)	220uF	20%	16V
C8	1-161-379-00	CERAMIC	0.01uF	20%	25V
C9	1-161-379-00	CERAMIC	0.01uF	20%	25V
C10	1-161-379-00	CERAMIC	0.01uF	20%	25V
C11	1-124-907-11	ELECT	10uF	20%	50V
C12	1-124-902-00	ELECT	0.47uF	20%	50V
C13	1-124-903-11	ELECT	1uF	20%	50V
C14	1-124-903-11	ELECT	1uF	20%	50V
C15	1-124-907-11	ELECT	10uF	20%	50V
C16	1-124-907-11	ELECT	10uF	20%	50V
C17	1-124-907-11	ELECT	10uF	20%	50V
C18	1-124-907-11	ELECT	10uF	20%	50V
C19	1-136-158-00	FILM	0.027uF	5%	50V
C20	1-136-158-00	FILM	0.027uF	5%	50V
C21	1-161-046-00	CERAMIC	0.0039uF	10%	25V
C22	1-161-046-00	CERAMIC	0.0039uF	10%	25V
C23	1-124-903-11	ELECT	1uF	20%	50V
C24	1-162-288-31	CERAMIC (EE)	330PF	10%	50V
C24	1-162-294-31	CERAMIC (EXCEPT EE)	0.001uF	10%	50V
C25	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C26	1-124-477-11	ELECT	47uF	20%	25V
C27	1-126-962-11	ELECT	3.3uF	20%	50V
C28	1-161-494-00	CERAMIC	0.022uF		25V
C29	1-124-907-11	ELECT	10uF	20%	50V
C30	1-161-494-00	CERAMIC	0.022uF		25V
C31	1-101-005-00	CERAMIC	22000PF		50V
C32	1-162-196-31	CERAMIC (AEP, EE)	5.6PF	10%	50V
C32	1-162-198-31	CERAMIC (E, AUS)	8.2PF	10%	50V
C33	1-161-379-00	CERAMIC (EXCEPT EE)	0.01uF	20%	25V
C33	1-161-494-00	CERAMIC (EE)	0.022uF		25V
C34	1-164-159-11	CERAMIC (AEP, EE)	0.1uF		50V
C37	1-161-374-11	CERAMIC (AEP, EE)	0.0015uF	20%	50V
C38	1-102-120-00	CERAMIC (AEP, EE)	0.0018uF	10%	50V
C39	1-101-005-00	CERAMIC (AEP, EE)	22000PF		50V
C45	1-161-379-00	CERAMIC	0.01uF	20%	25V
C51	1-102-961-00	CERAMIC	27PF	5%	50V
C52	1-102-961-00	CERAMIC	27PF	5%	50V
C53	1-124-477-11	ELECT	47uF	20%	25V
C54	1-161-379-00	CERAMIC	0.01uF	20%	25V
C55	1-161-379-00	CERAMIC	0.01uF	20%	25V
C56	1-161-379-00	CERAMIC	0.01uF	20%	25V
C57	1-161-379-00	CERAMIC	0.01uF	20%	25V
C58	1-161-379-00	CERAMIC	0.01uF	20%	25V
C61	1-124-925-11	ELECT	2.2uF	20%	100V

Ref. No.	Part No.	Description		Remark	
C62	1-124-463-00	ELECT	0. 1uF	20%	50V
C63	1-161-379-00	CERAMIC	0. 01uF	20%	25V
C64	1-161-379-00	CERAMIC	0. 01uF	20%	25V
C65	1-124-120-11	ELECT (EXCEPT AEP1, EE)	220uF	20%	25V
C65	1-126-934-11	ELECT (AEP1, EE)	220uF	20%	16V
C67	1-161-379-00	CERAMIC	0. 01uF	20%	25V
C71	1-136-173-00	FILM (AEP, EE)	0. 47uF	5%	50V
C72	1-161-494-00	CERAMIC (AEP, EE)	0. 022uF		25V
C73	1-124-463-00	ELECT (AEP, EE)	0. 1uF	20%	50V
C301	1-124-477-11	ELECT	47uF	20%	25V
C302	1-124-477-11	ELECT	47uF	20%	25V
C303	1-124-927-11	ELECT	4. 7uF	20%	100V
C304	1-126-176-11	ELECT	220uF	20%	10V
C305	1-124-472-11	ELECT	470uF	20%	10V
C306	1-124-902-00	ELECT	0. 47uF	20%	50V
C308	1-124-472-11	ELECT	470uF	20%	10V
C309	1-124-443-00	ELECT	100uF	20%	10V
C310	1-164-159-11	CERAMIC	0. 1uF		50V
C311	1-164-159-11	CERAMIC	0. 1uF		50V
C312	1-164-159-11	CERAMIC	0. 1uF		50V
C313	1-161-379-00	CERAMIC	0. 01uF	20%	25V
C314	1-161-494-00	CERAMIC	0. 022uF		25V
C315	1-164-159-11	CERAMIC	0. 1uF		50V
C316	1-161-494-00	CERAMIC	0. 022uF		25V
C317	1-162-284-31	CERAMIC	150PF	10%	50V
C318	1-162-284-31	CERAMIC	150PF	10%	50V
C319	1-162-284-31	CERAMIC	150PF	10%	50V
C320	1-162-284-31	CERAMIC	150PF	10%	50V
C321	1-137-437-11	FILM	0. 0056uF	5%	50V
C322	1-137-437-11	FILM	0. 0056uF	5%	50V
C323	1-137-364-11	FILM	0. 001uF	5%	50V
C324	1-137-364-11	FILM	0. 001uF	5%	50V
C325	1-124-477-11	ELECT	47uF	20%	25V
C326	1-124-477-11	ELECT	47uF	20%	25V
C329	1-124-927-11	ELECT	4. 7uF	20%	100V
C1001	1-124-257-00	ELECT	2. 2uF	20%	50V
C1002	1-162-282-31	CERAMIC	100PF	10%	50V
C1003	1-162-282-31	CERAMIC	100PF	10%	50V
C1004	1-124-126-00	ELECT	47uF	20%	10V
C1005	1-161-377-00	CERAMIC	0. 0047uF	20%	16V
C1006	1-161-374-11	CERAMIC	0. 0015uF	20%	50V
C1007	1-124-464-11	ELECT	0. 22uF	20%	50V
C1010	1-124-126-00	ELECT	47uF	20%	10V
C1014	1-164-159-11	CERAMIC	0. 1uF		50V
C1027	1-164-159-11	CERAMIC	0. 1uF		50V
C1051	1-124-257-00	ELECT	2. 2uF	20%	50V
C1052	1-162-282-31	CERAMIC	100PF	10%	50V
C1053	1-162-282-31	CERAMIC	100PF	10%	50V
C1054	1-124-126-00	ELECT	47uF	20%	10V
C1055	1-161-377-00	CERAMIC	0. 0047uF	20%	16V
C1056	1-161-374-11	CERAMIC	0. 0015uF	20%	50V
C1057	1-124-464-11	ELECT	0. 22uF	20%	50V
C1060	1-124-126-00	ELECT	47uF	20%	10V
C1064	1-164-159-11	CERAMIC	0. 1uF		50V
C1077	1-164-159-11	CERAMIC	0. 1uF		50V
C1221	1-124-443-00	ELECT	100uF	20%	10V
C1222	1-126-176-11	ELECT	220uF	20%	10V
C1223	1-126-176-11	ELECT	220uF	20%	10V
C1311	1-164-159-11	CERAMIC	0. 1uF		50V
C1312	1-164-159-11	CERAMIC	0. 1uF		50V
C1313	1-126-974-11	ELECT	3300uF	20%	50V
C1314	1-126-974-11	ELECT	3300uF	20%	50V
C1321	1-124-257-00	ELECT	2. 2uF	20%	50V
C1331	1-124-122-11	ELECT	100uF	20%	50V
C1332	1-124-907-11	ELECT	10uF	20%	50V
C1333	1-124-910-11	ELECT	47uF	20%	50V
C1341	1-124-122-11	ELECT	100uF	20%	50V
C1342	1-124-122-11	ELECT	100uF	20%	50V
C1343	1-126-105-11	ELECT	1000uF	20%	35V
C1344	1-126-101-11	ELECT	100uF	20%	16V
C1345	1-124-477-11	ELECT	47uF	20%	25V
C1351	1-164-159-11	CERAMIC	0. 1uF		50V
C1352	1-164-159-11	CERAMIC	0. 1uF		50V
C1353	1-124-636-00	ELECT	3300uF	20%	25V
C1354	1-124-636-00	ELECT	3300uF	20%	25V
C1355	1-124-907-11	ELECT	10uF	20%	50V
C1356	1-124-907-11	ELECT	10uF	20%	50V
C1357	1-124-443-00	ELECT	100uF	20%	10V
C1358	1-124-443-00	ELECT	100uF	20%	10V
C1359	1-124-903-11	ELECT	1uF	20%	50V
C1360	1-164-159-11	CERAMIC	0. 1uF		50V
C1361	1-161-379-00	CERAMIC	0. 01uF	20%	25V
C1362	1-161-379-00	CERAMIC	0. 01uF	20%	25V
C1363	1-162-294-31	CERAMIC	0. 001uF	10%	50V
C1365	1-126-927-11	ELECT	2200uF	20%	6. 3V
C1371	1-124-557-11	ELECT	1000uF	20%	25V
C1372	1-124-907-11	ELECT	10uF	20%	50V
C1373	1-124-463-00	ELECT	0. 1uF	20%	50V
C1374	1-161-379-00	CERAMIC	0. 01uF	20%	25V
C1375	1-161-379-00	CERAMIC	0. 01uF	20%	25V
C1376	1-124-907-11	ELECT	10uF	20%	50V
C1381	1-126-233-11	ELECT (AEP3, E2)	22uF	20%	50V

MAIN

Ref. No.	Part No.	Description	Remark
C1382	1-126-233-11	ELECT 22uF 20% 50V (AEP3, E2)	

< FILTER >

Ref. No.	Part No.	Description	Remark
CF1	1-567-389-11	FILTER, CERAMIC	
CF2	1-567-389-11	FILTER, CERAMIC	
CF4	1-527-981-00	FILTER, CERAMIC	
CF5	1-577-075-11	OSCILLATOR, CERAMIC	
CF6	1-760-220-11	FILTER, CERAMIC	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN1	1-750-416-11	CONNECTOR, FFC/FPC 11P	
CN301	1-568-934-21	PIN, CONNECTOR 7P	
* CN303	1-568-954-11	PIN, CONNECTOR 5P	
* CN1201	1-537-327-11	TERMINAL BOARD (SPEAKER)	
CN1205	1-764-328-21	PIN, CONNECTOR (PCB) (V TYPE) 5P	
CN1206	1-750-428-11	CONNECTOR, FFC/FPC 23P	
CN1211	1-764-328-11	PIN, CONNECTOR (PCB) (V TYPE) 5P	
* CN1212	1-568-934-11	PIN, CONNECTOR 7P	
CN1301	1-764-333-11	PIN, CONNECTOR (PCB) (V TYPE) 10P	
* CN1302	1-566-210-11	PIN, CONNECTOR 3P (POWER SOURCE) (AEP3, E2)	

< DIODE >

Ref. No.	Part No.	Description	Remark
D1	8-719-987-63	DIODE 1N4148M	
D301	8-719-987-63	DIODE 1N4148M	
D302	8-719-010-33	DIODE UZ-4.7BSB	
D1011	8-719-987-63	DIODE 1N4148M	
D1012	8-719-987-63	DIODE 1N4148M	
D1204	8-719-987-63	DIODE 1N4148M	
D1205	8-719-987-63	DIODE 1N4148M	
D1311	8-719-312-09	DIODE RBA-402 (AEP, EE)	
D1311	8-719-510-68	DIODE D5SBA20F01 (E, AUS)	
D1321	8-719-987-63	DIODE 1N4148M	
D1322	8-719-987-63	DIODE 1N4148M	
D1331	8-719-200-82	DIODE 11ES2	
D1332	8-719-002-60	DIODE UZL-33L	
D1333	8-719-014-66	DIODE UZP-5.6B	
D1334	8-719-200-82	DIODE 11ES2	
D1335	8-719-200-82	DIODE 11ES2	
D1341	8-719-200-82	DIODE 11ES2	
D1342	8-719-200-82	DIODE 11ES2	
D1343	8-719-200-82	DIODE 11ES2	
D1344	8-719-200-82	DIODE 11ES2	
D1345	8-719-001-42	DIODE UZL-11M1 (AEP1)	
D1345	8-719-001-43	DIODE UZL-11M1-TA (EXCEPT AEP1)	
D1351	8-719-200-82	DIODE 11ES2	
D1352	8-719-200-82	DIODE 11ES2	
D1353	8-719-200-82	DIODE 11ES2	
D1354	8-719-200-82	DIODE 11ES2	
D1358	8-719-200-82	DIODE 11ES2	
D1359	8-719-200-82	DIODE 11ES2	
D1363	8-719-200-82	DIODE 11ES2	
D1364	8-719-200-82	DIODE 11ES2	
D1365	8-719-200-82	DIODE 11ES2	
D1366	8-719-987-63	DIODE 1N4148M	
D1371	8-719-200-82	DIODE 11ES2	
D1372	8-719-200-82	DIODE 11ES2	
D1373	8-719-987-63	DIODE 1N4148M	

< FRONT END >

Ref. No.	Part No.	Description	Remark
FE1	1-693-090-31	FRONT END (FM) (2 GANG) (AEP, E, AUS)	
FE1	1-693-244-11	FRONT END (3 GANG) (EE)	
FE2	1-239-260-11	ENCAPSULATED COMPONENT (E3, AUS)	
FE2	1-239-261-12	ENCAPSULATED COMPONENT (AEP, EE)	
FE3	1-236-463-11	ENCAPSULATED COMPONENT (AEP, EE)	

< IC >

Ref. No.	Part No.	Description	Remark
IC1	8-759-176-03	IC LA1835	
IC51	8-759-175-87	IC LC7218-ST	
IC301	8-759-061-65	IC LA5602	
IC302	8-759-805-37	IC L78LR05D-MA	
IC303	8-759-248-11	IC TMP87CH46N-4067	
IC304	8-759-822-09	IC LB1641	
IC305	8-759-145-58	IC UPC4558C	
IC306	8-759-145-58	IC UPC4558C	
IC307	8-759-605-00	IC M5F78M07L	
IC1001	8-759-634-51	IC M5218AP	
IC1011	8-759-000-48	IC MC14052BCP	
IC1012	8-759-000-49	IC MC14066BCP	
IC1013	8-759-634-51	IC M5218AP	
IC1202	8-759-111-68	IC UPC1237HA	
IC1351	8-759-602-66	IC M5230L-A	
IC1352	8-759-231-53	IC TA7805S	
IC1371	8-759-820-13	IC L78MR06	
IC1381	8-759-604-39	IC M5F78M12L (AEP3, E2)	

< IFT >

Ref. No.	Part No.	Description	Remark
IFT1	1-409-636-11	TRANSFORMER, IF (CERAMIC FILTER)	

< JACK >

Ref. No.	Part No.	Description	Remark
* J1001	1-580-912-11	JACK, PIN 4P (IN (PHONO/VIDEO))	
J1202	1-569-130-11	JACK, PIN 2P (SURROUND SPEAKER)	

< COIL >

Ref. No.	Part No.	Description	Remark
L1	1-407-500-00	INDUCTOR 4.7mH (AEP, EE)	
L1	1-410-688-31	INDUCTOR 1.5mH (E, AUS)	
L2	1-410-524-41	INDUCTOR 220uH (AEP, EE)	

Ref. No.	Part No.	Description	Remark
L1201	1-420-872-00	COIL, AIR-CORE	
L1251	1-420-872-00	COIL, AIR-CORE	
		< FILTER >	
LPF1	1-239-597-11	FILTER, LOW PASS	
LPF2	1-239-597-11	FILTER, LOW PASS	
		< IC LINK >	
⚠PS1351	1-532-840-21	LINK, IC (1.25A)	
⚠PS1352	1-532-840-21	LINK, IC (1.25A)	
		< TRANSISTOR >	
Q1	8-729-230-99	TRANSISTOR 2SC2669-OY	
Q3	8-729-119-76	TRANSISTOR 2SA1175-HFE	(AEP, EE)
Q4	8-729-119-76	TRANSISTOR 2SA1175-HFE	(AEP, EE)
Q5	8-729-900-80	TRANSISTOR DTC114ES	(AEP, EE)
Q6	8-729-900-80	TRANSISTOR DTC114ES	(AEP, EE)
Q7	8-729-900-80	TRANSISTOR DTC114ES	(AEP, EE)
Q8	8-729-900-80	TRANSISTOR DTC114ES	(AEP, EE)
Q55	8-729-900-61	TRANSISTOR DTA114ES	
Q61	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q62	8-729-201-84	TRANSISTOR 2SC3112-B	
Q71	8-729-202-67	TRANSISTOR 2SK246-GR3	(AEP, EE)
Q72	8-729-201-84	TRANSISTOR 2SC3112-B	(AEP, EE)
Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q302	8-729-900-65	TRANSISTOR DTA144ES	
Q303	8-729-900-65	TRANSISTOR DTA144ES	
Q1011	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1012	8-729-900-63	TRANSISTOR DTA124ES	
Q1013	8-729-900-36	TRANSISTOR DTC124ES	
Q1016	8-729-900-80	TRANSISTOR DTC114ES	
Q1017	8-729-900-80	TRANSISTOR DTC114ES	
Q1018	8-729-900-61	TRANSISTOR DTA114ES	
Q1061	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1204	8-729-900-63	TRANSISTOR DTA124ES	
Q1205	8-729-900-80	TRANSISTOR DTC114ES	
Q1331	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q1341	8-729-209-15	TRANSISTOR 2SD2012	
Q1342	8-729-900-80	TRANSISTOR DTC114ES	
Q1353	8-729-900-80	TRANSISTOR DTC114ES	
		< RESISTOR >	
R1	1-249-411-11	CARBON 330 5% 1/4W	
R2	1-249-411-11	CARBON 330 5% 1/4W	
R3	1-249-409-11	CARBON 220 5% 1/4W	
⚠R4	1-249-402-11	CARBON 56 5% 1/4W	F
R5	1-247-891-00	CARBON 330K 5% 1/4W	
R6	1-249-411-11	CARBON 330 5% 1/4W	
⚠R9	1-249-405-11	CARBON 100 5% 1/4W	F
R10	1-249-437-11	CARBON 47K 5% 1/4W	
R12	1-249-429-11	CARBON 10K 5% 1/4W	
R13	1-249-442-11	CARBON 510 5% 1/4W	
⚠R14	1-249-403-11	CARBON 68 5% 1/4W	F
R16	1-249-429-11	CARBON 10K 5% 1/4W	
R17	1-247-842-11	CARBON 3K 5% 1/4W	
R18	1-249-429-11	CARBON 10K 5% 1/4W	
R19	1-249-441-11	CARBON 100K 5% 1/4W	
R20	1-249-435-11	CARBON 33K 5% 1/4W	
R21	1-249-441-11	CARBON 100K 5% 1/4W	
R22	1-249-437-11	CARBON 47K 5% 1/4W	
R23	1-249-399-11	CARBON 33 5% 1/4W	
R24	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, EE)
R25	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, EE)
R26	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, EE)
R27	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, EE)
R30	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, EE)
R31	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, EE)
R32	1-249-433-11	CARBON 22K 5% 1/4W	(AEP, EE)
R33	1-247-903-00	CARBON 1M 5% 1/4W	(AEP, EE)
R34	1-249-437-11	CARBON 47K 5% 1/4W	(AEP, EE)
R35	1-249-423-11	CARBON 3.3K 5% 1/4W	
R36	1-249-423-11	CARBON 3.3K 5% 1/4W	
R45	1-249-426-11	CARBON 5.6K 5% 1/4W	
R46	1-249-426-11	CARBON 5.6K 5% 1/4W	
R48	1-249-423-11	CARBON 3.3K 5% 1/4W	
R49	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R50	1-249-401-11	CARBON 47 5% 1/4W	F
R51	1-249-417-11	CARBON 1K 5% 1/4W	
R52	1-249-417-11	CARBON 1K 5% 1/4W	
R53	1-249-417-11	CARBON 1K 5% 1/4W	
R54	1-249-417-11	CARBON 1K 5% 1/4W	
R56	1-249-425-11	CARBON 4.7K 5% 1/4W	
R57	1-249-417-11	CARBON 1K 5% 1/4W	
R58	1-249-417-11	CARBON 1K 5% 1/4W	
⚠R60	1-249-405-11	CARBON 100 5% 1/4W	F
R61	1-249-423-11	CARBON 3.3K 5% 1/4W	
R62	1-249-425-11	CARBON 4.7K 5% 1/4W	
R63	1-249-414-11	CARBON 560 5% 1/4W	
R64	1-249-417-11	CARBON 1K 5% 1/4W	
R65	1-249-410-11	CARBON 270 5% 1/4W	
R66	1-249-421-11	CARBON 2.2K 5% 1/4W	
R67	1-249-425-11	CARBON 4.7K 5% 1/4W	
R68	1-249-425-11	CARBON 4.7K 5% 1/4W	
R69	1-247-807-31	CARBON 100 5% 1/4W	
R71	1-249-423-11	CARBON 3.3K 5% 1/4W	(AEP, EE)
R72	1-249-433-11	CARBON 22K 5% 1/4W	(AEP, EE)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

MAIN

Ref. No.	Part No.	Description				Remark
R73	1-249-414-11	CARBON	560	5%	1/4W	(AEP, EE)
R74	1-249-417-11	CARBON	1K	5%	1/4W	(AEP, EE)
R74	1-249-417-11	CARBON	1K	5%	1/4W	(AEP, EE)
R75	1-249-410-11	CARBON	270	5%	1/4W	(AEP, EE)
R76	1-249-421-11	CARBON	2.2K	5%	1/4W	(AEP, EE)
R77	1-249-425-11	CARBON	4.7K	5%	1/4W	(AEP, EE)
R78	1-247-807-31	CARBON	100	5%	1/4W	(AEP, EE)
R301	1-249-429-11	CARBON	10K	5%	1/4W	
R302	1-249-429-11	CARBON	10K	5%	1/4W	
R303	1-249-417-11	CARBON	1K	5%	1/4W	
R304	1-249-425-11	CARBON	4.7K	5%	1/4W	
R305	1-249-417-11	CARBON	1K	5%	1/4W	
R306	1-249-417-11	CARBON	1K	5%	1/4W	
R307	1-249-417-11	CARBON	1K	5%	1/4W	
R308	1-249-417-11	CARBON	1K	5%	1/4W	
R309	1-249-431-11	CARBON	15K	5%	1/4W	
R310	1-249-431-11	CARBON	15K	5%	1/4W	
R311	1-249-431-11	CARBON	15K	5%	1/4W	
R312	1-249-425-11	CARBON	4.7K	5%	1/4W	
R313	1-249-425-11	CARBON	4.7K	5%	1/4W	
R314	1-249-429-11	CARBON	10K	5%	1/4W	
R315	1-249-429-11	CARBON	10K	5%	1/4W	
R316	1-249-429-11	CARBON	10K	5%	1/4W	
R317	1-249-429-11	CARBON	10K	5%	1/4W	
R318	1-249-417-11	CARBON	1K	5%	1/4W	
R319	1-249-417-11	CARBON	1K	5%	1/4W	
R320	1-247-852-11	CARBON	7.5K	5%	1/4W	
R321	1-247-852-11	CARBON	7.5K	5%	1/4W	
R322	1-247-852-11	CARBON	7.5K	5%	1/4W	
R323	1-247-852-11	CARBON	7.5K	5%	1/4W	
R324	1-249-431-11	CARBON	15K	5%	1/4W	
R325	1-249-431-11	CARBON	15K	5%	1/4W	
R326	1-249-431-11	CARBON	15K	5%	1/4W	
R327	1-249-431-11	CARBON	15K	5%	1/4W	
R328	1-249-419-11	CARBON	1.5K	5%	1/4W	
R329	1-249-419-11	CARBON	1.5K	5%	1/4W	
R330	1-249-419-11	CARBON	1.5K	5%	1/4W	
R331	1-249-419-11	CARBON	1.5K	5%	1/4W	
R332	1-249-441-11	CARBON	100K	5%	1/4W	
R333	1-249-441-11	CARBON	100K	5%	1/4W	
R1001	1-249-417-11	CARBON	1K	5%	1/4W	
R1002	1-249-437-11	CARBON	47K	5%	1/4W	
R1003	1-249-416-11	CARBON	820	5%	1/4W	
R1004	1-247-897-11	CARBON	560K	5%	1/4W	
R1005	1-249-437-11	CARBON	47K	5%	1/4W	
R1006	1-249-409-11	CARBON	220	5%	1/4W	
R1007	1-249-441-11	CARBON	100K	5%	1/4W	
R1011	1-247-852-11	CARBON	7.5K	5%	1/4W	
R1013	1-249-425-11	CARBON	4.7K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R1014	1-249-417-11	CARBON	1K	5%	1/4W	
R1015	1-247-903-00	CARBON	1M	5%	1/4W	
R1016	1-249-437-11	CARBON	47K	5%	1/4W	
R1017	1-249-437-11	CARBON	47K	5%	1/4W	
R1018	1-249-417-11	CARBON	1K	5%	1/4W	
R1020	1-249-437-11	CARBON	47K	5%	1/4W	
R1022	1-249-437-11	CARBON	47K	5%	1/4W	
R1023	1-249-437-11	CARBON	47K	5%	1/4W	
R1024	1-249-437-11	CARBON	47K	5%	1/4W	
R1025	1-249-437-11	CARBON	47K	5%	1/4W	
R1035	1-249-441-11	CARBON	100K	5%	1/4W	
R1036	1-247-889-00	CARBON	270K	5%	1/4W	
R1051	1-249-417-11	CARBON	1K	5%	1/4W	
R1052	1-249-437-11	CARBON	47K	5%	1/4W	
R1053	1-249-416-11	CARBON	820	5%	1/4W	
R1054	1-247-897-11	CARBON	560K	5%	1/4W	
R1055	1-249-437-11	CARBON	47K	5%	1/4W	
R1056	1-249-409-11	CARBON	220	5%	1/4W	
R1057	1-249-441-11	CARBON	100K	5%	1/4W	
R1061	1-247-852-11	CARBON	7.5K	5%	1/4W	
R1063	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1064	1-249-417-11	CARBON	1K	5%	1/4W	
R1065	1-247-903-00	CARBON	1M	5%	1/4W	
R1074	1-249-437-11	CARBON	47K	5%	1/4W	
R1075	1-249-437-11	CARBON	47K	5%	1/4W	
R1085	1-249-441-11	CARBON	100K	5%	1/4W	
R1086	1-247-889-00	CARBON	270K	5%	1/4W	
R1220	1-249-389-11	CARBON	4.7	5%	1/4W	
R1221	1-249-389-11	CARBON	4.7	5%	1/4W	
R1222	1-249-409-11	CARBON	220	5%	1/4W	
R1223	1-249-409-11	CARBON	220	5%	1/4W	
⚠R1226	1-215-890-11	METAL OXIDE (AEP, EE)	470	5%	2W	F
⚠R1226	1-216-455-11	METAL OXIDE (E, AUS)	560	5%	2W	F
R1233	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1234	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1235	1-249-435-11	CARBON	33K	5%	1/4W	
R1236	1-249-441-11	CARBON (AEP3, E, AUS, EE)	100K	5%	1/4W	
R1237	1-249-429-11	CARBON	10K	5%	1/4W	
R1240	1-249-438-11	CARBON	56K	5%	1/4W	
R1241	1-249-397-11	CARBON	22	5%	1/4W	
R1244	1-249-417-11	CARBON	1K	5%	1/4W	
R1245	1-249-417-11	CARBON	1K	5%	1/4W	
R1270	1-249-389-11	CARBON	4.7	5%	1/4W	
R1271	1-249-389-11	CARBON	4.7	5%	1/4W	
R1272	1-249-409-11	CARBON	220	5%	1/4W	
R1273	1-249-409-11	CARBON	220	5%	1/4W	

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Ref. No.	Part No.	Description				Remark
R1290	1-249-437-11	CARBON	47K	5%	1/4W	
R1321	1-249-429-11	CARBON	10K	5%	1/4W	
R1322	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R1331	1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
R1332	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1333	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1341	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1351	1-249-409-11	CARBON	220	5%	1/4W	
R1352	1-249-409-11	CARBON	220	5%	1/4W	
R1353	1-249-429-11	CARBON	10K	5%	1/4W	
R1354	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1355	1-247-807-31	CARBON (E, AUS)	100	5%	1/4W	
R1355	1-249-409-11	CARBON (AEP, EE)	220	5%	1/4W	
R1356	1-247-807-31	CARBON (E, AUS)	100	5%	1/4W	
R1356	1-249-409-11	CARBON (AEP, EE)	220	5%	1/4W	
R1357	1-249-417-11	CARBON	1K	5%	1/4W	
R1358	1-249-417-11	CARBON	1K	5%	1/4W	
R1359	1-249-441-11	CARBON	100K	5%	1/4W	
R1360	1-249-412-11	CARBON	390	5%	1/4W	
R1371	1-249-417-11	CARBON	1K	5%	1/4W	
R1372	1-249-429-11	CARBON	10K	5%	1/4W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description
RV1	1-238-601-11	RES, ADJ, CARBON 22K
RV2	1-238-600-11	RES, ADJ, CARBON 10K

< RELAY >

Ref. No.	Part No.	Description
RY1201	1-515-920-11	RELAY (24V)

< TERMINAL >

Ref. No.	Part No.	Description
* TM1	1-537-264-11	TERMINAL BOARD (ANTENNA) (E, AUS)
* TM1	1-537-288-11	TERMINAL BOARD, ANTENNA (PAL) (ANTENNA) (AEP, EE)

< VIBRATOR >

Ref. No.	Part No.	Description
X301	1-579-125-11	VIBRATOR, CERAMIC (8MHz)
XT51	1-577-126-21	VIBRATOR, CRYSTAL (7.2MHz)

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Ref. No.	Part No.	Description	Remark
*	A-4369-922-A	MAIN TC BOARD, COMPLETE **********************	
*	4-942-204-01	PLATE, GROUND	

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C722	1-137-368-11	FILM	0.0047uF	5%	50V
C723	1-162-291-31	CERAMIC	560PF	10%	50V
C726	1-137-399-11	FILM	0.1uF	5%	50V
C727	1-126-791-11	ELECT	10uF	20%	35V
C728	1-124-903-11	ELECT	1uF	20%	50V
C729	1-124-465-00	ELECT	0.47uF	20%	50V
C730	1-124-907-11	ELECT	10uF	20%	50V
C731	1-164-159-11	CERAMIC	0.1uF		50V
C732	1-126-791-11	ELECT	10uF	20%	35V
C741	1-124-903-11	ELECT	1uF	20%	50V
C742	1-126-791-11	ELECT	10uF	20%	35V
C822	1-137-368-11	FILM	0.0047uF	5%	50V
C823	1-162-291-31	CERAMIC	560PF	10%	50V
C826	1-137-399-11	FILM	0.1uF	5%	50V
C827	1-124-907-11	ELECT	10uF	20%	50V
C828	1-124-903-11	ELECT	1uF	20%	50V
C829	1-124-902-00	ELECT	0.47uF	20%	50V
C830	1-124-907-11	ELECT	10uF	20%	50V
C831	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C832	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C833	1-124-902-00	ELECT	0.47uF	20%	50V
C841	1-124-903-11	ELECT	1uF	20%	50V
C842	1-124-907-11	ELECT	10uF	20%	50V
C901	1-124-443-00	ELECT	100uF	20%	10V
C902	1-124-471-00	ELECT	1000uF	20%	6.3V
C903	1-124-443-00	ELECT	100uF	20%	10V
C910	1-124-907-11	ELECT	10uF	20%	50V
C911	1-124-907-11	ELECT	10uF	20%	50V
C912	1-124-120-11	ELECT	220uF	20%	25V
C914	1-124-584-00	ELECT	100uF	20%	10V
C916	1-124-443-00	ELECT	100uF	20%	10V
C917	1-124-443-00	ELECT	100uF	20%	10V
C918	1-124-443-00	ELECT	100uF	20%	10V
C956	1-162-290-31	CERAMIC	470PF	10%	50V
C957	1-162-290-31	CERAMIC	470PF	10%	50V
C958	1-164-159-11	CERAMIC	0.1uF		50V
C959	1-164-159-11	CERAMIC	0.1uF		50V

< CONNECTOR >

Ref. No.	Part No.	Description
* CN901	1-568-945-11	PIN, CONNECTOR 7P
CN902	1-764-342-11	PIN, CONNECTOR (PCB) (L TYPE) 5P
CN904	1-764-339-11	PIN, CONNECTOR (PCB) (L TYPE) 2P
CN905	1-580-783-11	CONNECTOR, BOARD TO BOARD

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MAIN TC

Ref. No.	Part No.	Description	Remark
CN906	1-580-783-11	CONNECTOR, BOARD TO BOARD	
CN907	1-580-783-11	CONNECTOR, BOARD TO BOARD	
* CN908	1-568-850-11	SOCKET, CONNECTOR 7P	
* CN909	1-568-850-11	SOCKET, CONNECTOR 7P	
CN910	1-750-741-11	CONNECTOR, FFC/FPC 9P	
CN911	1-750-454-11	CONNECTOR, FFC/FPC 13P	
* CN912	1-568-449-11	HOUSING, CONNECTOR (PC BOARD) 3P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D901	8-719-987-63	DIODE 1N4148M	
D902	8-719-987-63	DIODE 1N4148M	
D903	8-719-987-63	DIODE 1N4148M	
D904	8-719-987-63	DIODE 1N4148M	
D905	8-719-987-63	DIODE 1N4148M	

< IC >

Ref. No.	Part No.	Description	Remark
IC901	8-759-098-75	IC HA12171NT	
IC902	8-759-250-60	IC M50964-261FP	
IC903	8-759-635-63	IC M51943BSL-TP	
IC904	8-759-266-35	IC TA8242AK	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q801	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q901	8-729-900-65	TRANSISTOR DTA144ES	
Q902	8-729-900-89	TRANSISTOR DTC144ES	
Q903	8-729-900-89	TRANSISTOR DTC144ES	
Q904	8-729-900-65	TRANSISTOR DTA144ES	
Q905	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q906	8-729-116-56	TRANSISTOR 2SB1068-L	
Q907	8-729-116-56	TRANSISTOR 2SB1068-L	
Q908	8-729-900-65	TRANSISTOR DTA144ES	
Q909	8-729-900-89	TRANSISTOR DTC144ES	
Q910	8-729-900-65	TRANSISTOR DTA144ES	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R720	1-215-451-00	METAL 18K 1% 1/6W	
R721	1-249-430-11	CARBON 12K 5% 1/4W	
R722	1-249-431-11	CARBON 15K 5% 1/4W	
R723	1-249-425-11	CARBON 4.7K 5% 1/4W	
R724	1-249-428-11	CARBON 8.2K 5% 1/4W	
R725	1-249-429-11	CARBON 10K 5% 1/4W	
R727	1-249-429-11	CARBON 10K 5% 1/4W	
R730	1-249-429-11	CARBON 10K 5% 1/4W	
R731	1-249-425-11	CARBON 4.7K 5% 1/4W	
R732	1-249-429-11	CARBON 10K 5% 1/4W	
R733	1-249-429-11	CARBON 10K 5% 1/4W	
R734	1-249-429-11	CARBON 10K 5% 1/4W	
R735	1-247-864-11	CARBON 24K 5% 1/4W	
R736	1-249-429-11	CARBON 10K 5% 1/4W	
R737	1-249-429-11	CARBON 10K 5% 1/4W	
R738	1-249-429-11	CARBON 10K 5% 1/4W	
R741	1-249-421-11	CARBON 2.2K 5% 1/4W	
R742	1-249-428-11	CARBON 8.2K 5% 1/4W	
R743	1-247-840-00	CARBON 2.4K 5% 1/4W	
R744	1-249-433-11	CARBON 22K 5% 1/4W	
R745	1-249-417-11	CARBON 1K 5% 1/4W	
R821	1-249-430-11	CARBON 12K 5% 1/4W	
R822	1-249-431-11	CARBON 15K 5% 1/4W	
R823	1-249-425-11	CARBON 4.7K 5% 1/4W	
R824	1-249-428-11	CARBON 8.2K 5% 1/4W	
R825	1-247-882-11	CARBON 130K 5% 1/4W	
R826	1-247-866-11	CARBON 30K 5% 1/4W	
R829	1-249-429-11	CARBON 10K 5% 1/4W	
R830	1-249-432-11	CARBON 18K 5% 1/4W	
R831	1-247-885-00	CARBON 180K 5% 1/4W	
R841	1-249-421-11	CARBON 2.2K 5% 1/4W	
R842	1-249-428-11	CARBON 8.2K 5% 1/4W	
R843	1-247-840-00	CARBON 2.4K 5% 1/4W	
R844	1-249-433-11	CARBON 22K 5% 1/4W	
R845	1-249-417-11	CARBON 1K 5% 1/4W	
R901	1-247-807-31	CARBON 100 5% 1/4W	
R902	1-249-389-11	CARBON 4.7 5% 1/4W	
R907	1-249-429-11	CARBON 10K 5% 1/4W	
R908	1-247-903-00	CARBON 1M 5% 1/4W	
R909	1-247-895-00	CARBON 470K 5% 1/4W	
R910	1-247-895-00	CARBON 470K 5% 1/4W	
R911	1-249-410-11	CARBON 270 5% 1/4W	
R912	1-249-410-11	CARBON 270 5% 1/4W	
R914	1-249-411-11	CARBON 330 5% 1/4W	
R915	1-249-411-11	CARBON 330 5% 1/4W	
R917	1-249-411-11	CARBON 330 5% 1/4W	
R918	1-249-417-11	CARBON 1K 5% 1/4W	
R919	1-249-429-11	CARBON 10K 5% 1/4W	
R920	1-249-429-11	CARBON 10K 5% 1/4W	
R921	1-249-421-11	CARBON 2.2K 5% 1/4W	
R922	1-249-421-11	CARBON 2.2K 5% 1/4W	
R923	1-249-429-11	CARBON 10K 5% 1/4W	
R926	1-249-429-11	CARBON 10K 5% 1/4W	
R927	1-249-425-11	CARBON 4.7K 5% 1/4W	
R928	1-249-429-11	CARBON 10K 5% 1/4W	
R929	1-249-415-11	CARBON 680 5% 1/4W	
R930	1-249-414-11	CARBON 560 5% 1/4W	
R931	1-249-415-11	CARBON 680 5% 1/4W	
R932	1-249-429-11	CARBON 10K 5% 1/4W	
R933	1-249-415-11	CARBON 680 5% 1/4W	
R934	1-249-429-11	CARBON 10K 5% 1/4W	
R935	1-249-415-11	CARBON 680 5% 1/4W	

Ref. No.	Part No.	Description			Remark
R936	1-249-429-11	CARBON	10K	5%	1/4W
R937	1-249-429-11	CARBON	10K	5%	1/4W
R938	1-249-429-11	CARBON	10K	5%	1/4W
R939	1-249-429-11	CARBON	10K	5%	1/4W
R940	1-249-429-11	CARBON	10K	5%	1/4W
R941	1-249-429-11	CARBON	10K	5%	1/4W
R942	1-249-441-11	CARBON	100K	5%	1/4W
R943	1-249-441-11	CARBON	100K	5%	1/4W
R958	1-247-807-31	CARBON	100	5%	1/4W
R959	1-249-381-11	CARBON	1	5%	1/4W
R960	1-249-381-11	CARBON	1	5%	1/4W
R968	1-247-807-31	CARBON	100	5%	1/4W
R969	1-249-381-11	CARBON	1	5%	1/4W
R970	1-249-381-11	CARBON	1	5%	1/4W
R971	1-249-429-11	CARBON	10K	5%	1/4W
R972	1-249-425-11	CARBON	4.7K	5%	1/4W
R973	1-249-434-11	CARBON	27K	5%	1/4W
R974	1-249-429-11	CARBON	10K	5%	1/4W
R976	1-249-425-11	CARBON	4.7K	5%	1/4W
R977	1-249-434-11	CARBON	27K	5%	1/4W

< VARIABLE RESISTOR >

RV701	1-230-496-11	RES, ADJ, CARBON 10K
RV801	1-230-496-11	RES, ADJ, CARBON 10K

< VIBRATOR >

X901	1-577-358-21	VIBRATOR, CERAMIC (4MHz)

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*	A-4365-945-A	PANEL BOARD, COMPLETE (AEP2,AEP3)
*	A-4369-090-A	PANEL BOARD, COMPLETE (EE)
*	A-4369-592-A	PANEL BOARD, COMPLETE (E,AUS)
*	A-4371-095-A	PANEL BOARD, COMPLETE (AEP1)

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*	4-942-301-01	HOLDER, FL TUBE
*	4-949-935-21	CUSHION (FL)
*	4-962-699-01	HOLDER, FL TUBE

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C601	1-164-159-11	CERAMIC	0.1uF		50V
C602	1-124-261-00	ELECT	10uF	20%	50V
C603	1-104-905-11	DOUBLE LAYERS	0.22F		5.5V
C604	1-164-159-11	CERAMIC	0.1uF		50V
C605	1-136-169-00	FILM	0.22uF	5%	50V
C606	1-161-375-00	CERAMIC (AEP1)	0.0022uF	20%	50V
C607	1-161-379-00	CERAMIC	0.01uF	20%	25V
C608	1-161-379-00	CERAMIC	0.01uF	20%	25V
C609	1-124-910-11	ELECT	47uF	20%	50V
C610	1-161-379-00	CERAMIC	0.01uF	20%	25V
C661	1-124-903-11	ELECT	1uF	20%	50V
C662	1-124-903-11	ELECT	1uF	20%	50V
C1102	1-124-589-11	ELECT	47uF	20%	16V
C1103	1-162-282-31	CERAMIC	100PF	10%	50V
C1104	1-124-257-00	ELECT	2.2uF	20%	50V
C1105	1-124-464-11	ELECT	0.22uF	20%	50V
C1106	1-137-374-11	FILM	0.047uF	5%	50V
C1107	1-124-464-11	ELECT	0.22uF	20%	50V
C1108	1-137-442-11	FILM	0.039uF	5%	50V
C1109	1-137-441-11	FILM	0.027uF	5%	50V
C1110	1-137-457-11	FILM	0.0027uF	5%	50V
C1111	1-161-327-00	CERAMIC	0.0033uF	20%	16V
C1112	1-162-293-31	CERAMIC	820PF	10%	50V
C1113	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1114	1-124-589-11	ELECT	47uF	20%	16V
C1115	1-124-257-00	ELECT	2.2uF	20%	50V
C1120	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1121	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1123	1-162-282-31	CERAMIC	100PF	10%	50V
C1143	1-126-176-11	ELECT	220uF	20%	10V
C1152	1-124-589-11	ELECT	47uF	20%	16V
C1153	1-162-282-31	CERAMIC	100PF	10%	50V
C1154	1-124-257-00	ELECT	2.2uF	20%	50V
C1155	1-124-464-11	ELECT	0.22uF	20%	50V
C1156	1-137-374-11	FILM	0.047uF	5%	50V
C1157	1-124-464-11	ELECT	0.22uF	20%	50V
C1158	1-137-442-11	FILM	0.039uF	5%	50V
C1159	1-137-441-11	FILM	0.027uF	5%	50V
C1160	1-137-457-11	FILM	0.0027uF	5%	50V
C1161	1-161-327-00	CERAMIC	0.0033uF	20%	16V
C1162	1-162-293-31	CERAMIC	820PF	10%	50V
C1163	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1164	1-124-589-11	ELECT	47uF	20%	16V
C1165	1-124-257-00	ELECT	2.2uF	20%	50V
C1173	1-162-282-31	CERAMIC	100PF	10%	50V
C1197	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1501	1-162-294-31	CERAMIC	0.001uF	10%	50V
C1502	1-124-234-00	ELECT	22uF	20%	16V
C1503	1-124-234-00	ELECT	22uF	20%	16V
C1508	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1509	1-126-163-11	ELECT	4.7uF	20%	50V
C1510	1-124-234-00	ELECT	22uF	20%	16V
C1511	1-124-584-00	ELECT	100uF	20%	10V
C1512	1-164-159-11	CERAMIC	0.1uF		50V
C1513	1-164-159-11	CERAMIC	0.1uF		50V
C1514	1-124-584-00	ELECT	100uF	20%	10V

PANEL

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN601	1-750-416-11	CONNECTOR, FFC/FPC 11P	
CN1101	1-750-428-11	CONNECTOR, FFC/FPC 23P	
CN1102	1-506-469-11	PIN, CONNECTOR 4P	
		< COMPOSITION CIRCUIT BLOCK >	
CP601	1-239-505-11	COMPOSITION CIRCUIT BLOCK	
* CP602	1-233-216-11	COMPOSITION CIRCUIT BLOCK	
CP1511	1-239-054-11	COMPOSITION CIRCUIT BLOCK	
CP1512	1-239-054-11	COMPOSITION CIRCUIT BLOCK	
		< DIODE >	
D601	8-719-987-63	DIODE 1N4148M	
D602	8-719-987-63	DIODE 1N4148M	
D603	8-719-987-63	DIODE 1N4148M	
D604	8-719-200-82	DIODE 11ES2	
D623	8-719-987-63	DIODE 1N4148M (E, AUS)	
D624	8-719-987-63	DIODE 1N4148M (EE)	
D626	8-719-987-63	DIODE 1N4148M	
D671	8-719-046-46	LED SEL5221S-TH8C (ON/STANDBY)	
D1130	8-719-038-63	LED SEL5220S-TH8C (VIDEO)	
D1131	8-719-038-63	LED SEL5220S-TH8C (TAPE)	
D1132	8-719-038-63	LED SEL5220S-TH8C (CD)	
D1133	8-719-038-63	LED SEL5220S-TH8C (TUNER)	
D1134	8-719-038-63	LED SEL5220S-TH8C (PHONO)	
D1145	8-719-038-63	LED SEL5220S-TH8C (VOLUME)	
D1150	8-719-987-63	DIODE 1N4148M	
D1151	8-719-987-63	DIODE 1N4148M	
D1152	8-719-987-63	DIODE 1N4148M	
D1160	8-719-038-63	LED SEL5220S-TH8C (FLAT)	
D1161	8-719-038-63	LED SEL5220S-TH8C (DANCE)	
D1162	8-719-038-63	LED SEL5220S-TH8C (POPS)	
D1163	8-719-038-63	LED SEL5220S-TH8C (ROCK)	
D1164	8-719-038-63	LED SEL5220S-TH8C (CLASSIC)	
D1171	8-719-987-63	DIODE 1N4148M	
		< FLUORESCENT INDICATOR >	
FL601	1-517-258-11	INDICATOR TUBE, FLUORESCENT	
FL1501	1-517-260-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC601	8-759-248-06	IC uPD78042GF-053-3B9	
IC602	8-749-920-83	IC GP1U52XB	
IC1101	8-759-634-51	IC M5218AP	
IC1102	8-759-634-51	IC M5218AP	
IC1103	8-759-820-62	IC LB1639	
IC1104	8-759-916-12	IC SN74HC00AN	
IC1106	8-759-000-48	IC MC14052BCP	

Ref. No.	Part No.	Description	Remark
IC1501	8-759-065-87	IC XR-1096	
		< COIL >	
L601	1-410-521-11	INDUCTOR 100uH	
L1101	1-408-096-00	INDUCTOR 470uH (AEP1)	
L1101	1-410-624-11	INDUCTOR 560uH (EXCEPT AEP1)	
L1102	1-408-080-00	INDUCTOR 100uH (AEP1)	
L1102	1-410-521-11	INDUCTOR 100uH (EXCEPT AEP1)	
		< TRANSISTOR >	
Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q602	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q671	8-729-900-63	TRANSISTOR DTA124ES	
Q1101	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1102	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q1103	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1104	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1105	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1121	8-729-900-61	TRANSISTOR DTA114ES	
Q1124	8-729-900-36	TRANSISTOR DTC124ES	
Q1125	8-729-900-36	TRANSISTOR DTC124ES	
Q1126	8-729-900-36	TRANSISTOR DTC124ES	
Q1141	8-729-900-63	TRANSISTOR DTA124ES	
Q1143	8-729-900-80	TRANSISTOR DTC114ES	
Q1144	8-729-900-80	TRANSISTOR DTC114ES	
Q1145	8-729-900-61	TRANSISTOR DTA114ES	
Q1147	8-729-900-36	TRANSISTOR DTC124ES	
Q1148	8-729-900-63	TRANSISTOR DTA124ES	
Q1151	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1152	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q1153	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1154	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1155	8-729-119-78	TRANSISTOR 2SC2785-HFE	
		< RESISTOR >	
R601	1-249-417-11	CARBON 1K 5% 1/4W	
R603	1-249-437-11	CARBON 47K 5% 1/4W	
R604	1-249-433-11	CARBON 22K 5% 1/4W	
R605	1-249-433-11	CARBON 22K 5% 1/4W	
R606	1-249-429-11	CARBON 10K 5% 1/4W	
R607	1-249-429-11	CARBON 10K 5% 1/4W	
R608	1-249-423-11	CARBON 3.3K 5% 1/4W	
R609	1-249-417-11	CARBON 1K 5% 1/4W	
R610	1-249-425-11	CARBON 4.7K 5% 1/4W	
R611	1-249-429-11	CARBON 10K 5% 1/4W	
R613	1-249-429-11	CARBON 10K 5% 1/4W	
R614	1-249-429-11	CARBON 10K 5% 1/4W	
R615	1-249-433-11	CARBON 22K 5% 1/4W	
R616	1-249-433-11	CARBON 22K 5% 1/4W	

Ref. No.	Part No.	Description				Remark
R621	1-249-419-11	CARBON	1.5K	5%	1/4W	
R622	1-247-807-31	CARBON	100	5%	1/4W	
R623	1-249-406-11	CARBON	120	5%	1/4W	
R624	1-249-406-11	CARBON	120	5%	1/4W	
R625	1-247-811-31	CARBON	150	5%	1/4W	
R626	1-249-408-11	CARBON	180	5%	1/4W	
R627	1-249-409-11	CARBON	220	5%	1/4W	
R628	1-249-410-11	CARBON	270	5%	1/4W	
R629	1-249-411-11	CARBON	330	5%	1/4W	
R630	1-249-413-11	CARBON	470	5%	1/4W	
R631	1-249-414-11	CARBON	560	5%	1/4W	
R632	1-249-416-11	CARBON	820	5%	1/4W	
R633	1-249-418-11	CARBON	1.2K	5%	1/4W	
R634	1-249-421-11	CARBON	2.2K	5%	1/4W	
R635	1-249-419-11	CARBON	1.5K	5%	1/4W	
R636	1-247-807-31	CARBON	100	5%	1/4W	
R637	1-249-406-11	CARBON	120	5%	1/4W	
R638	1-249-406-11	CARBON	120	5%	1/4W	
R639	1-247-811-31	CARBON	150	5%	1/4W	
R640	1-249-408-11	CARBON	180	5%	1/4W	
R641	1-249-409-11	CARBON	220	5%	1/4W	
R642	1-249-410-11	CARBON	270	5%	1/4W	
R643	1-249-411-11	CARBON	330	5%	1/4W	
R644	1-249-413-11	CARBON	470	5%	1/4W	
R645	1-249-414-11	CARBON	560	5%	1/4W	
R646	1-249-416-11	CARBON	820	5%	1/4W	
R647	1-249-418-11	CARBON	1.2K	5%	1/4W	
R648	1-249-421-11	CARBON	2.2K	5%	1/4W	
R649	1-249-424-11	CARBON	3.9K	5%	1/4W	
R651	1-249-385-11	CARBON	2.2	5%	1/6W	
R652	1-249-385-11	CARBON	2.2	5%	1/6W	
R653	1-249-386-11	CARBON	2.7	5%	1/6W	
R661	1-249-417-11	CARBON	1K	5%	1/4W	
R662	1-249-417-11	CARBON	1K	5%	1/4W	
R663	1-249-417-11	CARBON	1K	5%	1/4W	
R664	1-249-417-11	CARBON	1K	5%	1/4W	
R665	1-249-417-11	CARBON	1K	5%	1/4W	
R666	1-249-417-11	CARBON	1K	5%	1/4W	
R671	1-249-412-11	CARBON	390	5%	1/4W	
R1102	1-249-417-11	CARBON	1K	5%	1/4W	
R1103	1-249-431-11	CARBON	15K	5%	1/4W	
R1104	1-249-441-11	CARBON	100K	5%	1/4W	
R1105	1-249-433-11	CARBON	22K	5%	1/4W	
R1106	1-249-424-11	CARBON	3.9K	5%	1/4W	
R1107	1-249-441-11	CARBON	100K	5%	1/4W	
R1108	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1109	1-249-412-11	CARBON	390	5%	1/4W	
R1110	1-249-417-11	CARBON	1K	5%	1/4W	
R1111	1-249-441-11	CARBON	100K	5%	1/4W	
R1114	1-249-431-11	CARBON	15K	5%	1/4W	
R1115	1-249-439-11	CARBON	68K	5%	1/4W	
R1116	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1117	1-249-440-11	CARBON	82K	5%	1/4W	
R1118	1-249-412-11	CARBON	390	5%	1/4W	
R1119	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1120	1-247-862-11	CARBON	20K	5%	1/4W	
R1122	1-249-433-11	CARBON	22K	5%	1/4W	
R1123	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1124	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1125	1-249-433-11	CARBON	22K	5%	1/4W	
R1126	1-249-420-11	CARBON	1.8K	5%	1/4W	
R1127	1-249-440-11	CARBON	82K	5%	1/4W	
R1128	1-249-412-11	CARBON	390	5%	1/4W	
R1129	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1130	1-247-862-11	CARBON	20K	5%	1/4W	
R1131	1-249-434-11	CARBON	27K	5%	1/4W	
R1132	1-249-412-11	CARBON	390	5%	1/4W	
R1135	1-249-433-11	CARBON	22K	5%	1/4W	
R1136	1-249-412-11	CARBON	390	5%	1/4W	
R1137	1-249-412-11	CARBON	390	5%	1/4W	
R1138	1-249-412-11	CARBON	390	5%	1/4W	
R1139	1-249-417-11	CARBON	1K	5%	1/4W	
R1141	1-249-437-11	CARBON	47K	5%	1/4W	
R1142	1-249-412-11	CARBON	390	5%	1/4W	
R1143	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1145	1-249-412-11	CARBON	390	5%	1/4W	
R1149	1-247-874-11	CARBON	62K	5%	1/4W	
R1152	1-249-417-11	CARBON	1K	5%	1/4W	
R1154	1-249-441-11	CARBON	100K	5%	1/4W	
R1155	1-249-433-11	CARBON	22K	5%	1/4W	
R1156	1-249-424-11	CARBON	3.9K	5%	1/4W	
R1157	1-249-441-11	CARBON	100K	5%	1/4W	
R1158	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1159	1-249-412-11	CARBON	390	5%	1/4W	
R1160	1-249-417-11	CARBON	1K	5%	1/4W	
R1161	1-249-441-11	CARBON	100K	5%	1/4W	
R1164	1-249-431-11	CARBON	15K	5%	1/4W	
R1165	1-249-439-11	CARBON	68K	5%	1/4W	
R1166	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1167	1-249-440-11	CARBON	82K	5%	1/4W	
R1168	1-249-412-11	CARBON	390	5%	1/4W	
R1169	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1170	1-247-862-11	CARBON	20K	5%	1/4W	
R1172	1-249-433-11	CARBON	22K	5%	1/4W	
R1173	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1174	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1176	1-249-420-11	CARBON	1.8K	5%	1/4W	
R1177	1-249-440-11	CARBON	82K	5%	1/4W	

PANEL PANEL (A)

Ref. No.	Part No.	Description	Remark
R1178	1-249-412-11	CARBON 390 5% 1/4W	
R1179	1-249-427-11	CARBON 6.8K 5% 1/4W	
R1180	1-247-862-11	CARBON 20K 5% 1/4W	
R1181	1-249-434-11	CARBON 27K 5% 1/4W	
R1183	1-249-437-11	CARBON 47K 5% 1/4W	
R1184	1-249-437-11	CARBON 47K 5% 1/4W	
R1185	1-249-437-11	CARBON 47K 5% 1/4W	
R1189	1-249-417-11	CARBON 1K 5% 1/4W	
R1191	1-249-437-11	CARBON 47K 5% 1/4W	
R1192	1-249-412-11	CARBON 390 5% 1/4W	
R1193	1-249-427-11	CARBON 6.8K 5% 1/4W	
R1194	1-249-433-11	CARBON 22K 5% 1/4W	
R1195	1-249-425-11	CARBON 4.7K 5% 1/4W	
R1196	1-249-425-11	CARBON 4.7K 5% 1/4W	
R1199	1-247-874-11	CARBON 62K 5% 1/4W	
R1501	1-249-418-11	CARBON 1.2K 5% 1/4W	
R1502	1-247-881-00	CARBON 120K 5% 1/4W	
R1503	1-247-881-00	CARBON 120K 5% 1/4W	
R1551	1-249-406-11	CARBON 120 5% 1/4W	(AEP1)
R1551	1-247-807-31	CARBON 100 5% 1/4W (EXCEPT AEP1)	
R1552	1-249-436-11	CARBON 39K 5% 1/4W	
R1553	1-249-436-11	CARBON 39K 5% 1/4W	
R1554	1-249-423-11	CARBON 3.3K 5% 1/4W	
R1555	1-249-423-11	CARBON 3.3K 5% 1/4W	

< COMPOSITION CIRCUIT BLOCK >

Ref. No.	Part No.	Description	Remark
RP601	1-239-598-11	COMPOSITION CIRCUIT BLOCK	
RP602	1-232-998-11	COMPOSITION CIRCUIT BLOCK	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV1101	1-223-251-11	RES, VAR, CARBON 100K/100K (SURROUND)	
RV1102	1-223-251-11	RES, VAR, CARBON 100K/100K (DBFB)	
RV1109	1-241-350-11	RES, VAR, CARBON 100K/100K (VOLUME)	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S601	1-554-303-21	SWITCH, TACTILE (BAND)	
S602	1-554-303-21	SWITCH, TACTILE (SHIFT)	
S603	1-554-303-21	SWITCH, TACTILE (- (DUAL MODE TUNING))	
S604	1-554-303-21	SWITCH, TACTILE (+ (DUAL MODE TUNING))	
S605	1-554-303-21	SWITCH, TACTILE (1 (PRESET STATION))	
S606	1-554-303-21	SWITCH, TACTILE (2 (PRESET STATION))	
S607	1-554-303-21	SWITCH, TACTILE (3 (PRESET STATION))	
S608	1-554-303-21	SWITCH, TACTILE (4 (PRESET STATION))	
S609	1-554-303-21	SWITCH, TACTILE (5 (PRESET STATION))	
S610	1-554-303-21	SWITCH, TACTILE (6 (PRESET STATION))	
S611	1-554-303-21	SWITCH, TACTILE (7 (PRESET STATION))	
S612	1-554-303-21	SWITCH, TACTILE (8 (PRESET STATION))	
S613	1-554-303-21	SWITCH, TACTILE (9 (PRESET STATION))	
S614	1-554-303-21	SWITCH, TACTILE (0 (PRESET STATION))	
S615	1-554-303-21	SWITCH, TACTILE (POWER)	
S616	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S617	1-554-303-21	SWITCH, TACTILE (STEREO/MONO)	
S619	1-554-303-21	SWITCH, TACTILE (VIDEO)	
S620	1-554-303-21	SWITCH, TACTILE (TAPE)	
S621	1-554-303-21	SWITCH, TACTILE (CD)	
S622	1-554-303-21	SWITCH, TACTILE (TUNER)	
S623	1-554-303-21	SWITCH, TACTILE (PHONO)	
S625	1-554-303-21	SWITCH, TACTILE (FLAT)	
S626	1-554-303-21	SWITCH, TACTILE (DANCE)	
S627	1-554-303-21	SWITCH, TACTILE (POPS)	
S628	1-554-303-21	SWITCH, TACTILE (ROCK)	
S629	1-554-303-21	SWITCH, TACTILE (CLASSIC)	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X601	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)	

****

Ref. No.	Part No.	Description	Remark
*	1-650-780-11	PANEL (A) BOARD	

****

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN951	1-750-414-11	CONNECTOR, FFC/FPC 9P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D982	8-719-046-42	LED SEL5421E-TH8C (▷)	
D983	8-719-046-42	LED SEL5421E-TH8C (◁)	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R981	1-247-811-31	CARBON 150 5% 1/4W	
R982	1-249-409-11	CARBON 220 5% 1/4W	
R983	1-249-415-11	CARBON 680 5% 1/4W	
R984	1-249-417-11	CARBON 1K 5% 1/4W	
R985	1-249-426-11	CARBON 5.6K 5% 1/4W	
R986	1-249-430-11	CARBON 12K 5% 1/4W	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S901	1-554-303-21	SWITCH, TACTILE (■)	
S902	1-554-303-21	SWITCH, TACTILE (▷)	
S903	1-554-303-21	SWITCH, TACTILE (◁)	
S904	1-554-303-21	SWITCH, TACTILE (◀◀ (AMS))	
S905	1-554-303-21	SWITCH, TACTILE (▶▶ (AMS))	
S906	1-572-269-11	SWITCH, SLIDE (DOLBY NR)	
S907	1-572-268-11	SWITCH, SLIDE (DIRECTION MODE)	

****

PANEL (B)

Ref. No.	Part No.	Description	Remark
*	1-650-781-11	PANEL (B) BOARD	
		***************	
		< CONNECTOR >	
CN952	1-750-454-11	CONNECTOR, FFC/FPC 13P	
		< DIODE >	
D991	8-719-046-46	LED SEL5221S-TH8C (●)	
D992	8-719-046-38	LED SEL5821A-TH8C (❚❚)	
D994	8-719-046-42	LED SEL5421E-TH8C (▷)	
D995	8-719-046-42	LED SEL5421E-TH8C (◁)	
D997	8-719-046-46	LED SEL5221S-TH8C (NORMAL)	
D998	8-719-046-46	LED SEL5221S-TH8C (HIGH)	
		< RESISTOR >	
R990	1-247-811-31	CARBON 150 5% 1/4W	
R991	1-249-409-11	CARBON 220 5% 1/4W	
R992	1-249-411-11	CARBON 330 5% 1/4W	
R993	1-249-413-11	CARBON 470 5% 1/4W	
R994	1-249-411-11	CARBON 330 5% 1/4W	
R995	1-249-413-11	CARBON 470 5% 1/4W	
R996	1-249-415-11	CARBON 680 5% 1/4W	
R997	1-249-417-11	CARBON 1K 5% 1/4W	
R998	1-249-420-11	CARBON 1.8K 5% 1/4W	
		< SWITCH >	
S951	1-554-303-21	SWITCH, TACTILE (■)	
S952	1-554-303-21	SWITCH, TACTILE (❚❚ (PAUSE))	
S953	1-554-303-21	SWITCH, TACTILE (▷)	
S954	1-554-303-21	SWITCH, TACTILE (◁)	
S955	1-554-303-21	SWITCH, TACTILE (○ (REC MUTE))	
S956	1-554-303-21	SWITCH, TACTILE (◀◀ (AMS))	
S957	1-554-303-21	SWITCH, TACTILE (▶▶ (AMS))	
S958	1-554-303-21	SWITCH, TACTILE (● (REC))	
S959	1-554-303-21	SWITCH, TACTILE (HIGH (DUBBING SPEED))	
S960	1-554-303-21	SWITCH, TACTILE (NORMAL (DUBBING SPEED))	

****

POWER AMPLIFIER

Ref. No.	Part No.	Description	Remark
*	A-4365-948-A	POWER AMPLIFIER BOARD, COMPLETE (AEP2, AEP3, EE)	
*	A-4365-954-A	POWER AMPLIFIER BOARD, COMPLETE (E, AUS)	
*	A-4371-100-A	POWER AMPLIFIER BOARD, COMPLETE (AEP1)	
		******************************	
		< CAPACITOR >	
C1201	1-126-163-11	ELECT 4.7uF 20% 50V	
C1202	1-164-075-11	CERAMIC 150PF 10% 50V	
C1203	1-164-077-11	CERAMIC 220PF 10% 50V	
C1204	1-124-126-00	ELECT 47uF 20% 10V	
C1205	1-124-910-11	ELECT 47uF 20% 50V	
C1206	1-124-122-11	ELECT 100uF 20% 50V	
C1208	1-124-916-11	ELECT 22uF 20% 63V	
C1210	1-137-375-11	FILM 0.068uF 5% 50V	
C1211	1-137-375-11	FILM 0.068uF 5% 50V	
C1220	1-126-176-11	ELECT 220uF 20% 10V	
C1251	1-126-163-11	ELECT 4.7uF 20% 50V	
C1252	1-164-075-11	CERAMIC 150PF 10% 50V	
C1253	1-164-077-11	CERAMIC 220PF 10% 50V	
C1254	1-124-126-00	ELECT 47uF 20% 10V	
C1255	1-124-910-11	ELECT 47uF 20% 50V	
C1256	1-124-122-11	ELECT 100uF 20% 50V	
C1260	1-137-375-11	FILM 0.068uF 5% 50V	
C1261	1-137-375-11	FILM 0.068uF 5% 50V	
		< CONNECTOR >	
* CN1203	1-564-518-11	PLUG, CONNECTOR 3P	
CN1204	1-764-331-11	PIN, CONNECTOR (PCB) (V TYPE) 8P	
		< DIODE >	
D1201	8-719-987-63	DIODE 1N4148M	
D1202	8-719-987-63	DIODE 1N4148M	
D1203	8-719-987-63	DIODE 1N4148M	
D1251	8-719-987-63	DIODE 1N4148M	
		< IC >	
IC1201	8-749-920-09	IC STK-4152MK2K (EXCEPT E, AUS) (AEP, EE)	
IC1201	8-749-920-10	IC STK4172MK2 (E, AUS)	
		< TRANSISTOR >	
Q1201	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q1251	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
		< RESISTOR >	
R1201	1-249-417-11	CARBON 1K 5% 1/4W	
R1202	1-249-438-11	CARBON 56K 5% 1/4W	
R1203	1-249-417-11	CARBON 1K 5% 1/4W	
R1204	1-249-438-11	CARBON 56K 5% 1/4W	

POWER AMPLIFIER POWER SUPPLY (A) POWER SUPPLY (B)

Ref. No.	Part No.	Description				Remark
R1205	1-249-425-11	CARBON (EXCEPT E, AUS)	4.7K	5%	1/4W	
R1205	1-249-427-11	CARBON	6.8K	5%	1/4W	(E, AUS)
R1206	1-249-425-11	CARBON (EXCEPT E, AUS)	4.7K	5%	1/4W	
R1206	1-249-427-11	CARBON	6.8K	5%	1/4W	(E, AUS)
R1207	1-249-425-11	CARBON (EXCEPT E, AUS)	4.7K	5%	1/4W	
R1207	1-249-427-11	CARBON	6.8K	5%	1/4W	(E, AUS)
R1208	1-249-425-11	CARBON (EXCEPT E, AUS)	4.7K	5%	1/4W	
R1208	1-249-427-11	CARBON	6.8K	5%	1/4W	(E, AUS)
⚠R1209	1-212-881-11	FUSIBLE	100	5%	1/4W	F
⚠R1210	1-217-151-00	METAL PLATE	0.22		2W	F
R1211	1-249-417-11	CARBON	1K	5%	1/4W	
R1212	1-249-431-11	CARBON	15K	5%	1/4W	
R1213	1-249-441-11	CARBON	100K	5%	1/4W	
R1214	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1215	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1216	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1217	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1218	1-249-397-11	CARBON	22	5%	1/4W	
R1219	1-249-397-11	CARBON	22	5%	1/4W	
R1227	1-249-429-11	CARBON	10K	5%	1/4W	
R1228	1-249-441-11	CARBON	100K	5%	1/4W	
R1230	1-249-428-11	CARBON	8.2K	5%	1/4W	(E, AUS)
R1230	1-249-429-11	CARBON (EXCEPT E, AUS)	10K	5%	1/4W	
⚠R1243	1-249-383-11	CARBON	1.5	5%	1/6W	F
R1251	1-249-417-11	CARBON	1K	5%	1/4W	
R1252	1-249-438-11	CARBON	56K	5%	1/4W	
R1253	1-249-417-11	CARBON	1K	5%	1/4W	
R1254	1-249-438-11	CARBON	56K	5%	1/4W	
R1255	1-249-425-11	CARBON (EXCEPT E, AUS)	4.7K	5%	1/4W	
R1255	1-249-427-11	CARBON	6.8K	5%	1/4W	(E, AUS)
R1256	1-249-425-11	CARBON (EXCEPT E, AUS)	4.7K	5%	1/4W	
R1256	1-249-427-11	CARBON	6.8K	5%	1/4W	(E, AUS)
R1257	1-249-425-11	CARBON (EXCEPT E, AUS)	4.7K	5%	1/4W	
R1257	1-249-427-11	CARBON	6.8K	5%	1/4W	(E, AUS)
R1258	1-249-425-11	CARBON (EXCEPT E, AUS)	4.7K	5%	1/4W	
R1258	1-249-427-11	CARBON	6.8K	5%	1/4W	(E, AUS)
⚠R1259	1-212-881-11	FUSIBLE	100	5%	1/4W	F
⚠R1260	1-217-151-00	METAL PLATE	0.22		2W	F
R1261	1-249-417-11	CARBON	1K	5%	1/4W	
R1262	1-249-431-11	CARBON	15K	5%	1/4W	
R1263	1-249-441-11	CARBON	100K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R1268	1-249-397-11	CARBON	22	5%	1/4W	
R1269	1-249-397-11	CARBON	22	5%	1/4W	

****

*	1-650-840-12	POWER SUPPLY (A) BOARD *********************

< CONNECTOR >

* CN1301	1-564-321-00	PIN, CONNECTOR 2P (EXCEPT E)
CN1301	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P (E)

< SWITCH >

⚠VS1301	1-570-046-21	SWITCH, VOLTAGE CHANGE (VOLTAGE SELECTOR)

****

*	1-650-841-12	POWER SUPPLY (B) BOARD *********************
	1-533-217-31	HOLDER, FUSE

< FUSE >

⚠F1301	1-532-350-00	FUSE (4A/125V)
⚠F1302	1-532-350-00	FUSE (4A/125V)
⚠F1303	1-532-286-00	FUSE (2.5A)
⚠F1304	1-532-286-00	FUSE (2.5A)

****

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MISCELLANEOUS
****

Ref. No.	Part No.	Description	Remark
⚠3	1-558-943-51	CORD, POWER (E)	
⚠4	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)	
⚠5	1-575-651-11	CORD, POWER (AEP, EE)	
⚠6	1-696-848-21	CORD, POWER (AUS)	
8	1-765-176-11	WIRE (FLAT TYPE) (26 CORE)	
59	1-751-747-11	WIRE (FLAT TYPE) (23 CORE)	
60	1-590-459-11	WIRE, FLAT TYPE (11 CORE)	
106	1-590-485-11	WIRE, FLAT TYPE (7 CORE)	
116	1-751-025-11	WIRE (FLAT TYPE) (9 CORE)	
117	1-751-210-11	WIRE (FLAT TYPE) (13 CORE)	
* 261	1-452-538-11	MAGNET	
304	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
⚠307	8-848-144-11	DEVICE, OPTICAL KSS-240A	
⚠F1301	1-532-350-00	FUSE (4A/125V)	
⚠F1302	1-532-350-00	FUSE (4A/125V)	
⚠F1303	1-532-286-00	FUSE (2.5A)	
⚠F1304	1-532-286-00	FUSE (2.5A)	
HP101	A-2003-757-A	BASE ASSY, HEAD (DECK A)	
HRPE101	A-2003-930-A	BASE ASSY, HEAD (DECK B)	
M101	X-3365-377-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M102	X-4917-523-4	MOTOR ASSY (SPINDLE)	
M103	X-3365-377-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M104	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	
M151	A-4604-363-A	MOTOR (L) ASSY	
Q1351	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q1352	8-729-209-15	TRANSISTOR 2SD2012	
⚠T1301	1-423-925-11	TRANSFORMER, POWER (AEP, EE)	
⚠T1301	1-423-926-11	TRANSFORMER, POWER (E, AUS)	

****

****
HARDWARE LIST
****

Ref. No.	Part No.	Description	Remark
#1	7-621-255-15	SCREW +P 2X3	
#2	7-621-775-00	SCREW +B 2.6X3	
#3	7-621-775-10	SCREW +B 2.6X4	
#4	7-621-849-00	SCREW, TAPPING	
#5	7-627-556-08	SCREW +P 2.6X2.8	
#6	7-682-547-09	SCREW +BVTT 3X6 (S)	
#7	7-682-548-04	SCREW +BVTT 3X8 (S)	
#8	7-682-560-04	SCREW +BVTT 4X6 (S)	
#9	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S (E)	
#10	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#11	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	

****

ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remark
	1-467-491-11	COMMANDER, STANDARD (RM-S321)	
	1-501-374-11	ANTENNA, LOOP (AEP1, AEP2, EE)	
	1-501-536-11	ANTENNA (AEP1, AEP2, EE)	
	2-181-754-21	COVER (MLY), BATTERY (For RM-S321)	
	3-758-164-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE) (AEP2)	
	3-758-164-31	MANUAL, INSTRUCTION (DANISH, FINNISH) (AEP1)	
	3-758-164-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP2)	
	3-758-164-61	MANUAL, INSTRUCTION (ENGLISH, GERMAN, POLISH) (EE)	
	3-758-164-71	MANUAL, INSTRUCTION (CZECH) (EE)	
	3-758-164-81	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE) (AEP1)	
	3-758-164-91	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP1)	
*	4-963-204-01	CUSHION	
*	4-963-778-01	INDIVIDUAL CARTON (AEP2)	
*	4-963-779-01	INDIVIDUAL CARTON (EE)	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

9-959-361-11

Sony Corporation
Audio Group

English
94B0470-1
Printed in Japan

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Published by Audio Sector Quality Assurance Dept.

PS-LX56/LX56P

SERVICE MANUAL

US Model
Canadian Model
PX Model
Tourist Model
PS-LX56
AEP Model
E Model
Australian Model
PS-LX56/LX56P
UK Model
PS-LX56P

PS-LX56/LX56P are the turntable section in LBT-A190/A195/A290/A290K/A295/A390/A390K/A395/A490/A490K/A495/D150/D250/D550/G1000/G2000.

PHOTO : PS-LX56

SPECIFICATIONS

Turntable	**(PS-LX56)**
Platter	30cm (12 in.)
Motor	DC servo motor
Drive system	Belt drive
Speed	33 ⅓ rpm/45 rpm switchable
Wow and flutter	0.2% (WRMS)
Signal-to-noise ratio	60 dB (DIN-B)
Automatic system	Return, reject
Tonearm	
Type	Dynamically blanced
Pivot-to-stylus length	203 mm (8 in.)
Overall arm length	235 mm (9 ¼ in.)
Cartridge	
Type	Moving magnet type
Frequency response	20 Hz–20kHz
Stylus	CN-234
General	
Dimensions	355 × 94 × 345 mm(w/h/d) (14 × $3^{3}/_{4}$ × $13^{5}/_{8}$ inches)
Weight	Approx. 2.5 kg (5 lb 8 oz)
Power requirement	US and Canadian model : 120V AC, 60Hz European model : 220-230V AC, 50/60Hz Australian model : 240V AC, 50Hz Model for other countries : 110-120V/220-240V adjustable with the voltage selector AC, 50/60Hz
Power consumption	2 W
Accessory supplied	45-rpm adaptor (1)
Optional accessories	Replacement stylus CN-234 Stat spray XP-C10 Cleaner XP-C1, XP-C2

Turntable	**(PS-LX56P)**
Platter	30 cm
Tone arm type	Dynamically balanced
Cartridge type	Moving magnet type
Stylus	Sony CN-234 (0.6 mil diamond)
Mass	Approx. 2.3 kg (5 lb 1 oz)
Dimensions	Approx. 355 x 95 x 345 mm (14 x $3^{3}/_{4}$ x $13^{5}/_{8}$ inches) (w/h/d, including projections)

Design and specifications subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

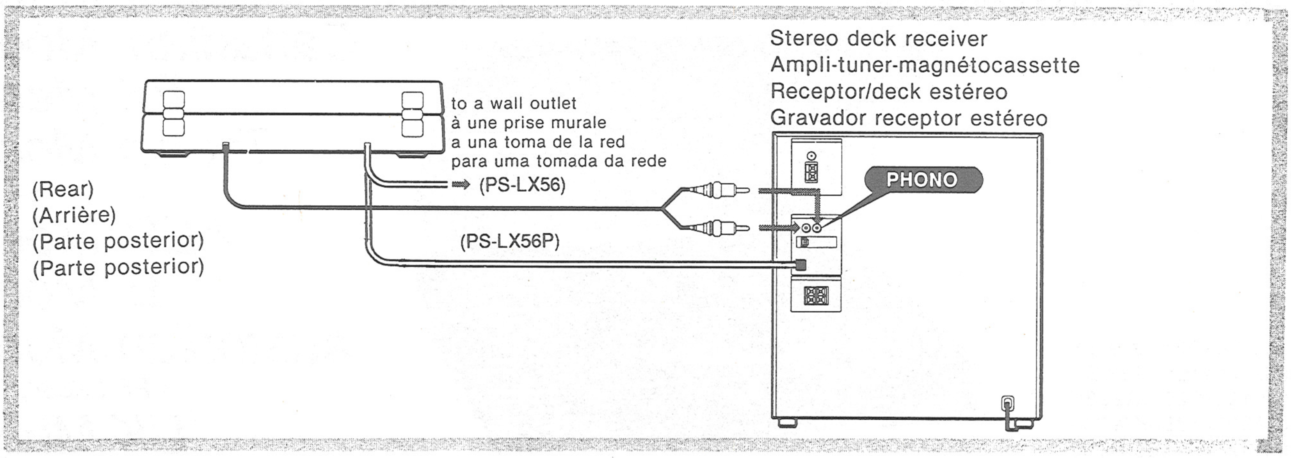
MICROFILM

STEREO TURNTABLE SYSTEM

SONY®

Connections

Note
Connect the red plug to the right-channel jack (R), and the white plug to the left-channel jack (L).


Stereo deck receiver
Ampli-tuner-magnétocassette
Receptor/deck estéreo
Gravador receptor estéreo
to a wall outlet
à une prise murale
a una toma de la red
para uma tomada da rede
⟹ (PS-LX56)
PHONO
(Rear)
(Arrière)
(Parte posterior)
(Parte posterior)
(PS-LX56P)

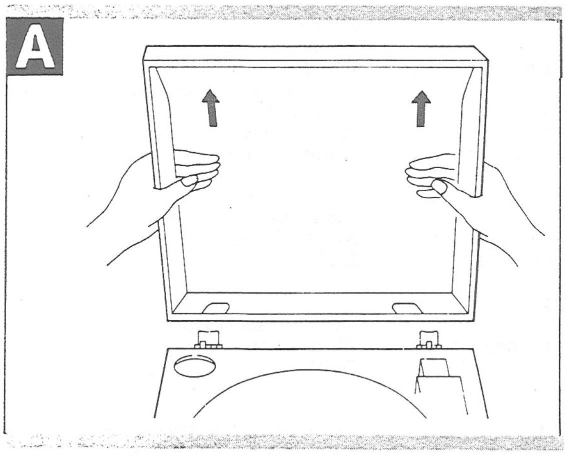
Notes on installation

- Place the turntable on a level surface.
- Avoid placing the unit near electrical appliances (such as a television, hair dryer, or fluorescent lamp) which may cause hum or noise.
- Place the turntable where it will not be subject to any vibration, such as from speakers, slamming of doors, etc.
- Keep the unit away from direct sunlight, extremes of temperature, and excessive dust and moisture.

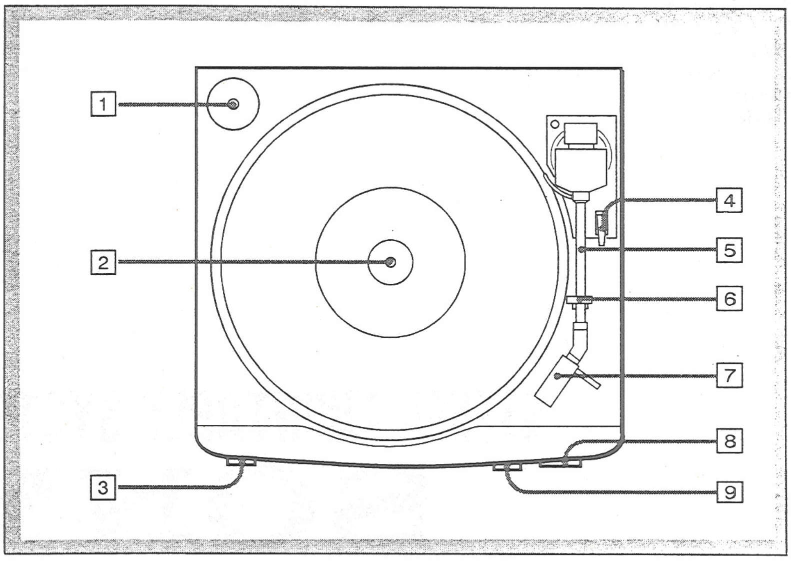
Nota
Conecte la clavija roja a la toma del canal derecho (R), y la blanca a la del canal izquierdo (L).

To remove the dust cover A

Open the cover fully and pull it up.

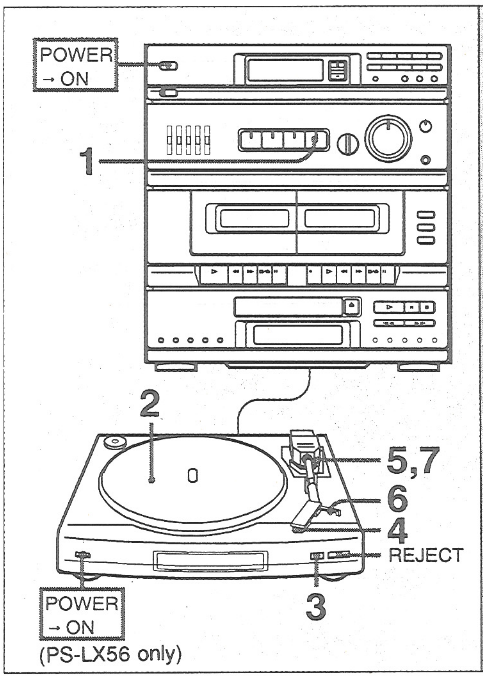


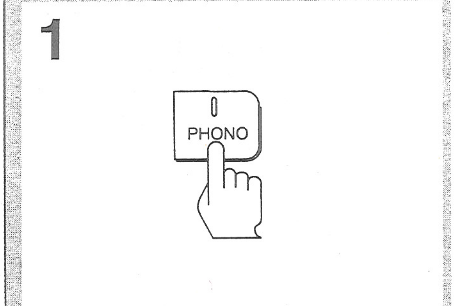
Location of Controls

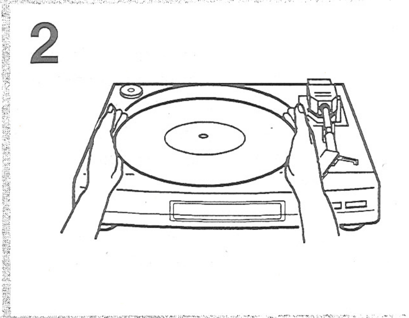


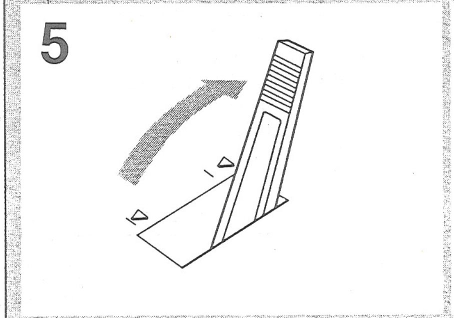
1 45-rpm adaptor
2 Centre spindle
3 POWER switch (PS-LX56)
4 Cueing lever
5 Tonearm
6 Armrest
7 Cartridge
8 REJECT button
9 Speed selector

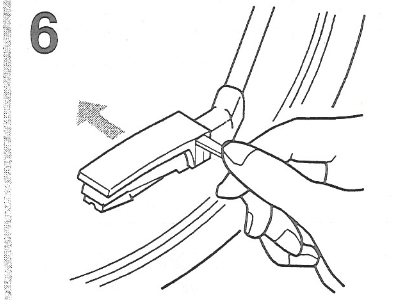
Playing Records

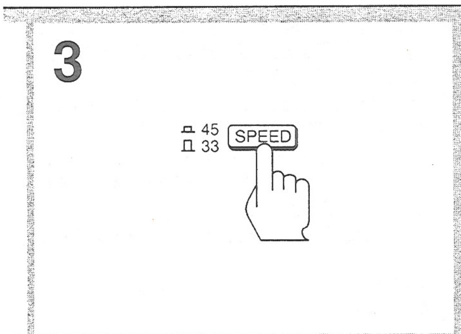

POWER
→ ON
1
2
5,7
6
4
REJECT
3
POWER
→ ON
(PS-LX56 only)

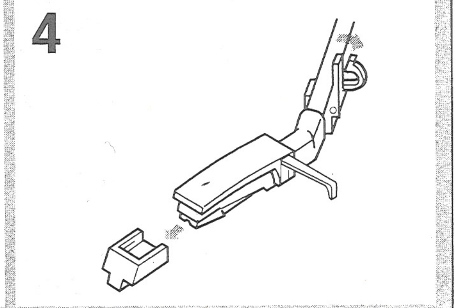


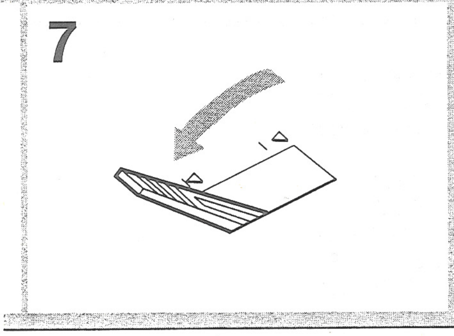







3
45
33
SPEED





When the record is played to the end, the tonearm returns to the armrest and the turntable stops.

To stop during play, press REJECT.

To play a different part of the record
Lift the tonearm by setting the cueing level to ▼̲, move the tonearm by hand to the desired point, then set the cueing lever to ▼̲.

To play a 17-cm record
Use the supplied adaptor

If the tonearm moves outward when you move it colse to the centre
Do not resist this movement, as it may damage the automatic return mechanism.

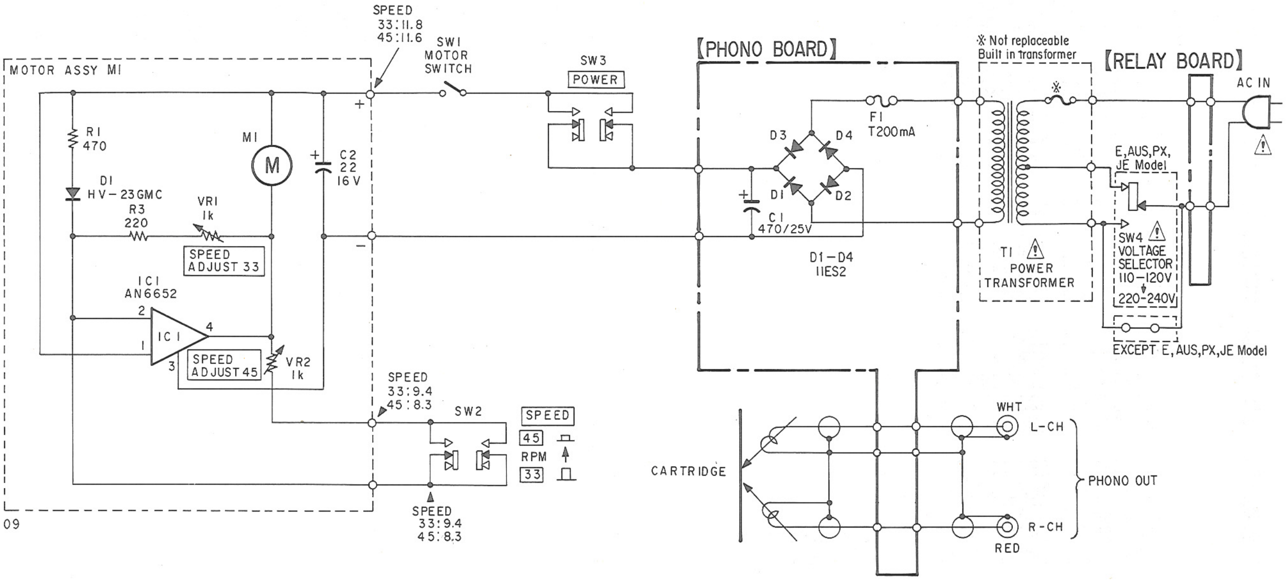
If the tonearm does not return to its armrest
Press REJECT.

SCHEMATIC DIAGRAMS

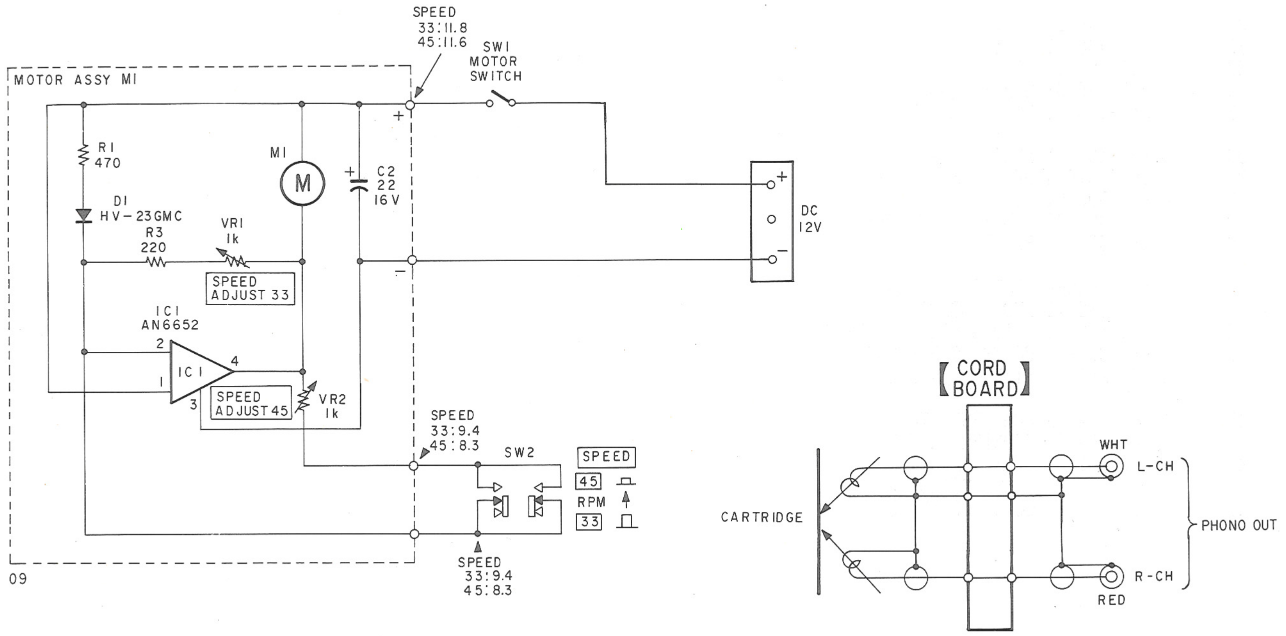
(PS-LX56)

- **Switches :**

Ref. No.	Switch	Position
SW1	MOTOR	OFF
SW2	SPEED	33
SW3	POWER	OFF


MOTOR ASSY M1
R1 470
D1 HV-23GMC
R3 220
VR1 1k
SPEED ADJUST 33
IC1 AN6652
IC1
2
1
3
4
SPEED ADJUST 45
VR2 1k
M1
M
C2 22 16V
+
−
SPEED 33:11.8 45:11.6
SW1 MOTOR SWITCH
SW3
POWER
SPEED 33:9.4 45:8.3
SW2
SPEED
45
RPM
33
SPEED 33:9.4 45:8.3
09
【PHONO BOARD】
D3
D4
F1 T200mA
D1
D2
C1 470/25V
D1–D4 11ES2
※ Not replaceable Built in Transformer
【RELAY BOARD】
AC IN
E,AUS,PX, JE Model
T1 POWER TRANSFORMER
SW4 VOLTAGE SELECTOR 110–120V 220–240V
EXCEPT E,AUS,PX,JE Model
CARTRIDGE
WHT
L-CH
PHONO OUT
R-CH
RED

(PS-LX56P)


MOTOR ASSY M1
R1 470
D1 HV-23GMC
R3 220
VR1 1k
SPEED ADJUST 33
IC1 AN6652
IC1
2
1
3
4
SPEED ADJUST 45
VR2 1k
M1
M
C2 22 16V
+
−
SPEED 33:11.8 45:11.6
SW1 MOTOR SWITCH
DC 12V
SPEED 33:9.4 45:8.3
SW2
SPEED
45
RPM
33
SPEED 33:9.4 45:8.3
09
【CORD BOARD】
CARTRIDGE
WHT
L-CH
PHONO OUT
R-CH
RED

Note:

- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

AUS : Australian model
JE : Tourist model

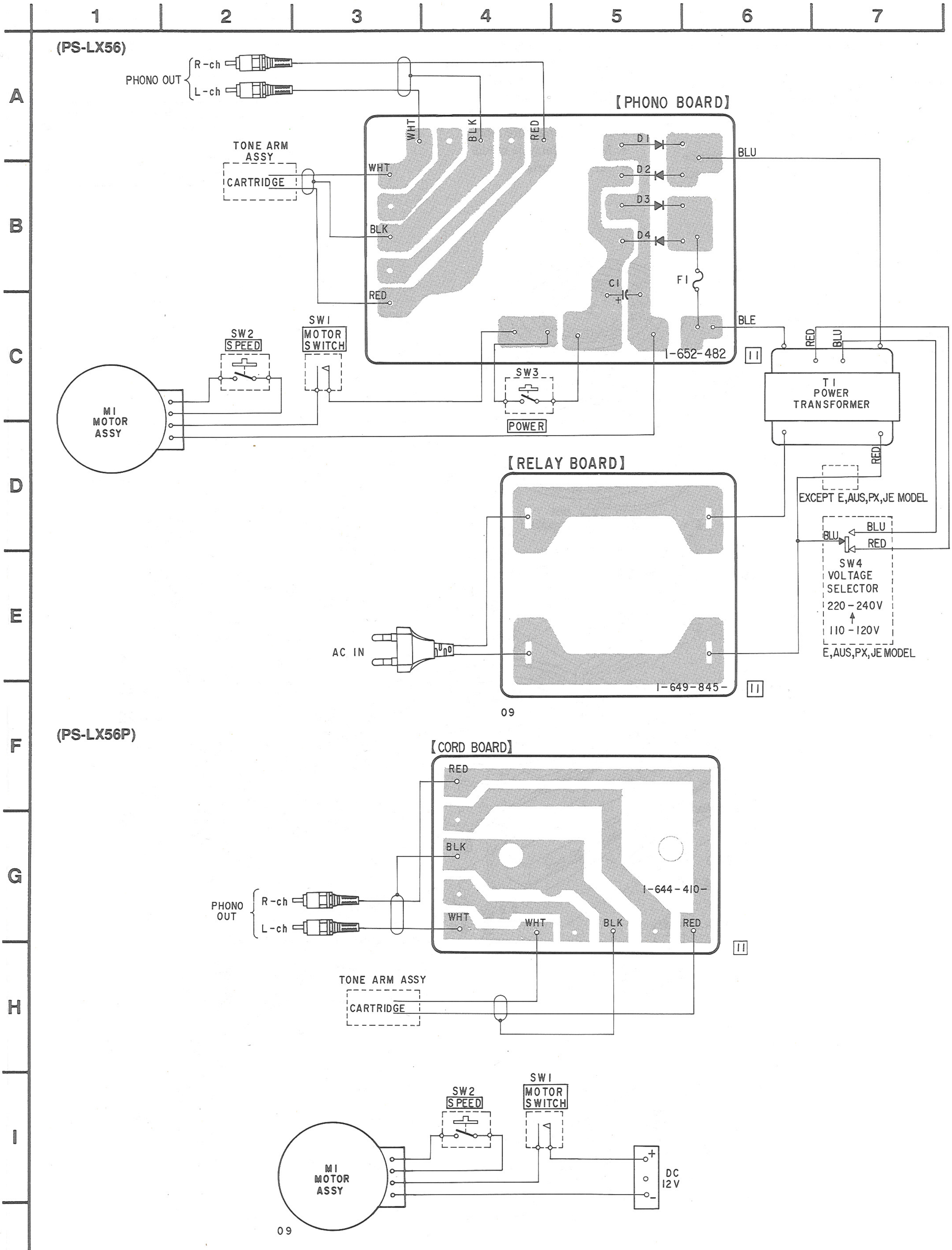
- **Switches :**

Ref. No.	Switch	Position
SW1	MOTOR	OFF
SW2	SPEED	33
SW3	POWER	OFF
SW4	VOLTAGE SELECTOR	240V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spéci-fié.

WIRING DIAGRAMS


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
(PS-LX56)
PHONO OUT
R-ch
L-ch
[PHONO BOARD]
WHT
BLK
RED
TONE ARM ASSY
CARTRIDGE
WHT
BLK
RED
D1
D2
D3
D4
BLU
F1
C1
+
BLE
1-652-482
11
SW1
MOTOR SWITCH
SW2
SPEED
SW3
POWER
M1
MOTOR ASSY
RED
BLU
T1
POWER TRANSFORMER
RED
[RELAY BOARD]
EXCEPT E,AUS,PX,JE MODEL
BLU
BLU
RED
SW4
VOLTAGE SELECTOR
220-240V
110-120V
E,AUS,PX,JE MODEL
AC IN
1-649-845-
11
09
(PS-LX56P)
[CORD BOARD]
RED
BLK
1-644-410-
WHT
WHT
BLK
RED
11
PHONO OUT
R-ch
L-ch
TONE ARM ASSY
CARTRIDGE
SW2
SPEED
SW1
MOTOR SWITCH
M1
MOTOR ASSY
+
-
DC 12V
09

Note:
● ○—— : parts extracted from the component side.

AUS : Australian model
JE : Tourist model

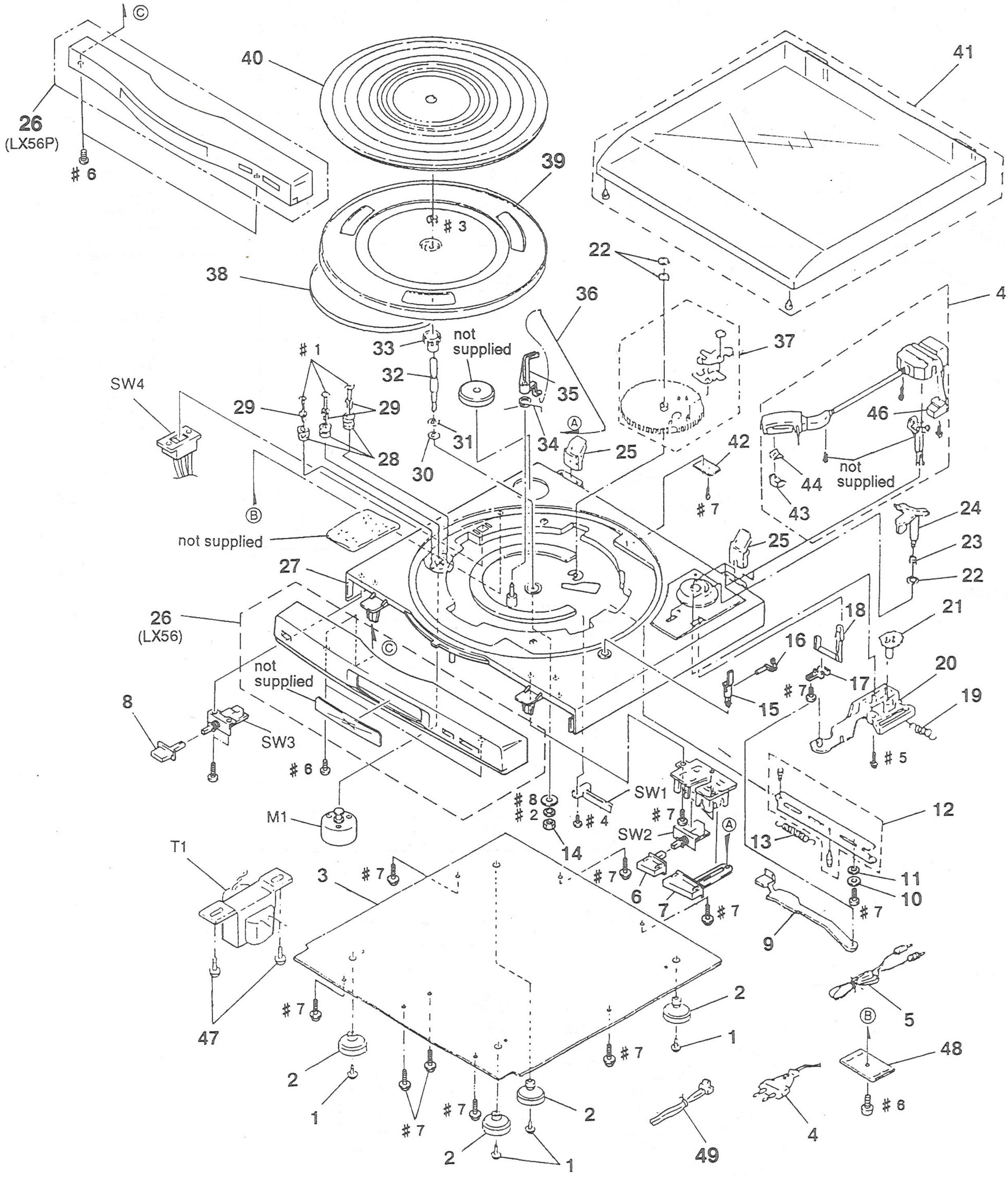
EXPLODED VIEW

NOTE:
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " ＊ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

- AUS : Australian model
- CND : Canadian model
- EE : East European model
- IT : Italian model
- MX : Mexican model
- EA : Saudi Arabia model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.


©
40
41
26
(LX56P)
# 6
39
# 3
22
38
36
45
37
33
not supplied
# 1
32
SW4
29
29
35
46
31
34
Ⓐ
25
42
28
30
not supplied
44
43
# 7
Ⓑ
not supplied
24
25
23
27
22
26
(LX56)
18
21
16
not supplied
©
20
8
17
# 7
15
19
SW3
# 5
# 6
SW1
12
# 8
# 2
# 4
# 7
M1
SW2
Ⓐ
13
14
T1
3
# 7
# 7
11
6
10
7
# 7
# 7
9
2
47
# 7
5
Ⓑ
1
# 7
48
2
2
# 7
# 6
1
# 7
4
49
2
1

Ref. No.	Part No.	Description	Remark
1	4-950-497-01	FOOT SEAT	
2	4-950-490-01	PLASTIC STAND	
* 3	4-961-804-01	BUTTON BOARD	
⚠4	1-575-651-61	CORD, AC (LX56: AEP, EA, EE, IT, MX, MY, CIS, SP)	
⚠4	1-575-975-11	CORD, AC (LX56: CND, US)	
⚠4	1-590-074-11	CORD, AC (LX56: E)	
⚠4	1-690-608-11	CORD, AC (LX56: AUS)	
5	1-555-116-11	CORD, PHONO	
6	4-964-177-01	KNOB SPEED	
7	4-964-178-01	KNOB REJECT	
8	4-964-184-01	KNOB POWER (LX56)	
9	4-947-487-01	RETURN LINK	
10	4-890-173-00	WASHER	
11	3-659-350-00	WASHER	
12	A-4604-947-A	RETURN ASSY, LEVER	
13	4-947-485-01	SPRING (22)	
14	4-947-510-01	NUT	
15	4-947-491-01	ARM REST	
16	A-4660-499-A	ARM CLIP ASSY	
17	4-947-477-01	CUEING (BASE)	
18	4-947-468-01	LEVER, CUEING	
19	4-963-537-01	SPRING	
20	4-963-536-01	LINK RETURN	
21	4-963-535-01	ADJUST CAM	
22	4-947-514-01	4MM CS RING	
23	4-947-467-01	SPRING (6)	
24	4-947-466-01	TONE ARM ELEVATOR	
25	A-4660-498-A	HINGE ASSY	
26	A-4660-577-A	FRONT PANEL (G) ASSY (LX56: GRAY)(US)	
26	A-4660-578-A	FRONT PANEL (G) ASSY (LX56: BLACK)	
26	A-4660-976-A	FRONT PANEL (G) ASSY (LX56P)	
* 27	4-950-487-01	MAIN CABINET (B)	
28	4-947-505-01	CUSHION MOTOR	
29	4-947-504-01	COLLAR	
30	3-451-162-00	WASHER (56)	
31	3-701-445-21	WASHER	
32	4-947-498-01	STELL BALL	
33	4-947-497-01	GEAR	
34	4-947-496-01	SPRING (34)	
35	4-947-495-01	WIPER REJECT	
36	4-948-101-01	SPRING (38)	
37	A-4604-916-A	GEAR ASSY, SPUR	
38	4-947-503-01	BELT	
39	4-947-494-01	TURNTABLE PLATTER	
40	4-947-539-01	RUBBER MAT	
41	A-4604-946-A	DUST COVER ASSY	
* 42	1-652-482-11	PHONO BOARD (LX56)	
* 42	1-644-410-11	CORD BOARD (LX56P)	
43	4-948-095-01	COVER, CARTRIDGE	
44	4-951-290-01	STYLUS (CN-234)	
45	A-4604-940-A	ARM ASSY, TONE	
46	4-947-464-01	COUNTER WEIGHT	
47	4-952-961-01	SCREW (LX56)	
* 48	1-649-845-11	RELAY BOARD (LX56)	
49	1-557-109-21	CORD, DC (LX56P)	

Ref. No.	Part No.	Description	Remark
M1	A-4604-945-A	MOTOR ASSY	
SW1	1-570-666-11	SWITCH (LEAF)	
SW2	1-571-089-11	SWITCH, PUSH (SPEED) (1 KEY)	
SW3	1-692-211-11	SWITCH, PUSH (POWER) (1 KEY)(LX56)	
⚠SW4	1-692-835-11	VOLTAGE SELECTOR (LX-56: AUS, E, MX, MY, SP)	
⚠T1	1-450-987-11	TRANSFORMER, POWER (LX56: AEP, EE, IT, CIS)	
⚠T1	1-450-987-21	TRANSFORMER, POWER (LX56: AUS, E, PX, EA, JE, MX, SP)	
⚠T1	1-450-987-31	TRANSFORMER, POWER (LX56: MY)	
⚠T1	1-450-987-41	TRANSFORMER, POWER (LX56: U, CA)	

CORD | PHONO | RELAY

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Hardware (# mark) list is given in the last of this parts list.
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- AUS : Australian model
- CND : Canadian model
- EE : East European model
- IT : Italian model
- MX : Mexican model
- EA : Saudi Arabia model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
*	1-644-410-11	CORD BOARD (LX56P) **********	
		**	
*	1-652-482-11	PHONO BOARD (LX56) ***********	
		< CAPACITOR >	
C1	1-126-012-11	ELECT 470uF 16V	
		< DIODE >	
D1	8-719-200-82	DIODE 11ES2	
D2	8-719-200-82	DIODE 11ES2	
D3	8-719-200-82	DIODE 11ES2	
D4	8-719-200-82	DIODE 11ES2	
		< FUSE >	
⚠F1	1-532-613-XX	FUSE TIME-LAG (T200mA)	
		**	
*	1-649-845-11	RELAY BOARD (LX56) ***********	
		**	

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS ******************************	
	4-758-045-11	MANUAL INSTRUCTION (English, French, Spanish, Portuguese) (LX56 AEP, CND)	
	4-758-045-21	MANUAL INSTRUCTION (English) (LX56 US)	
	4-758-045-41	MANUAL INSTRUCTION (German, Dutch, Swedish, Italian) (LX56 AEP, IT)	
	4-758-045-51	MANUAL INSTRUCTION (English, French, Spanish, Chinese) (LX56 AUS, E, PX, MX, EA, MY, SP, JE)	
	4-758-045-61	MANUAL INSTRUCTION (English, German, Polish) (LX56 EE, CIS)	
*	4-947-532-01	SNOW BOX (L)	
*	4-947-533-01	SNOW BOX (R)	
		**	

****

HARDWARE LIST

****

Ref. No.	Part No.	Description
#1	7-621-773-87	SCREW (64)
#2	7-623-210-22	WASHER (57)
#3	7-624-110-04	6MM E RING
#4	7-685-105-01	SCREW (59)
#5	7-685-645-79	SCREW (68)
#6	7-685-646-79	SCREW (60)
#7	7-685-647-79	SCREW (58)
#8	7-688-005-01	WASHER (69)

9-959-216-11

Sony Corporation
Audio Group

English
93K09102-1
Printed in Japan

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Published by Audio Sector Quality Assurance Dept.

PS-LX56/LX56P

SERVICE MANUAL

US Model
Canadian Model
PX Model
Tourist Model
PS-LX56
AEP Model
E Model
Australian Model
PS-LX56/LX56P
UK Model
PS-LX56P

PS-LX56/LX56P are the turntable section in LBT-A190/A195/A290/A290K/A295/A390/A390K/A395/A490/A490K/A495/D150/D250/D550/G1000/G2000.

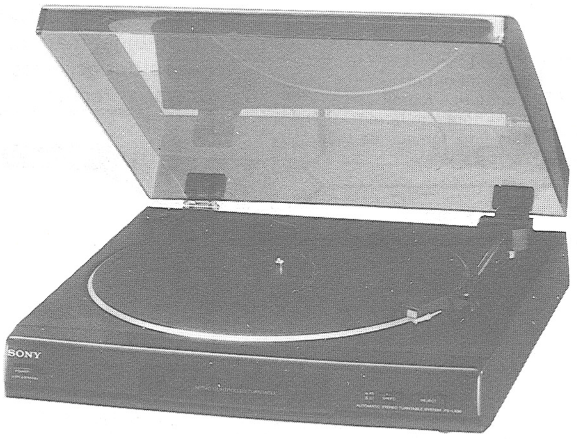


PHOTO : PS-LX56

SPECIFICATIONS

Turntable	**(PS-LX56)**
Platter	30cm (12 in.)
Motor	DC servo motor
Drive system	Belt drive
Speed	33 ⅓ rpm/45 rpm switchable
Wow and flutter	0.2% (WRMS)
Signal-to-noise ratio	60 dB (DIN-B)
Automatic system	Return, reject
Tonearm	
Type	Dynamically blanced
Pivot-to-stylus length	203 mm (8 in.)
Overall arm length	235 mm (9 ¼ in.)
Cartridge	
Type	Moving magnet type
Frequency response	20 Hz–20kHz
Stylus	CN-234
General	
Dimensions	355 × 94 × 345 mm(w/h/d) (14 × $3^3/_4$ × $13^5/_8$ inches)
Weight	Approx. 2.5 kg (5 lb 8 oz)
Power requirement	US and Canadian model : 120V AC, 60Hz European model : 220-230V AC, 50/60Hz Australian model : 240V AC, 50Hz Model for other countries : 110-120V/220-240V adjustable with the voltage selector AC, 50/60Hz
Power consumption	2 W
Accessory supplied	45-rpm adaptor (1)
Optional accessories	Replacement stylus CN-234 Stat spray XP-C10 Cleaner XP-C1, XP-C2

Turntable	**(PS-LX56P)**
Platter	30 cm
Tone arm type	Dynamically balanced
Cartridge type	Moving magnet type
Stylus	Sony CN-234 (0.6 mil diamond)
Mass	Approx. 2.3 kg (5 lb 1 oz)
Dimensions	Approx. 355 x 95 x 345 mm (14 x $3^3/_4$ x $13^5/_8$ inches) (w/h/d, including projections)

Design and specifications subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

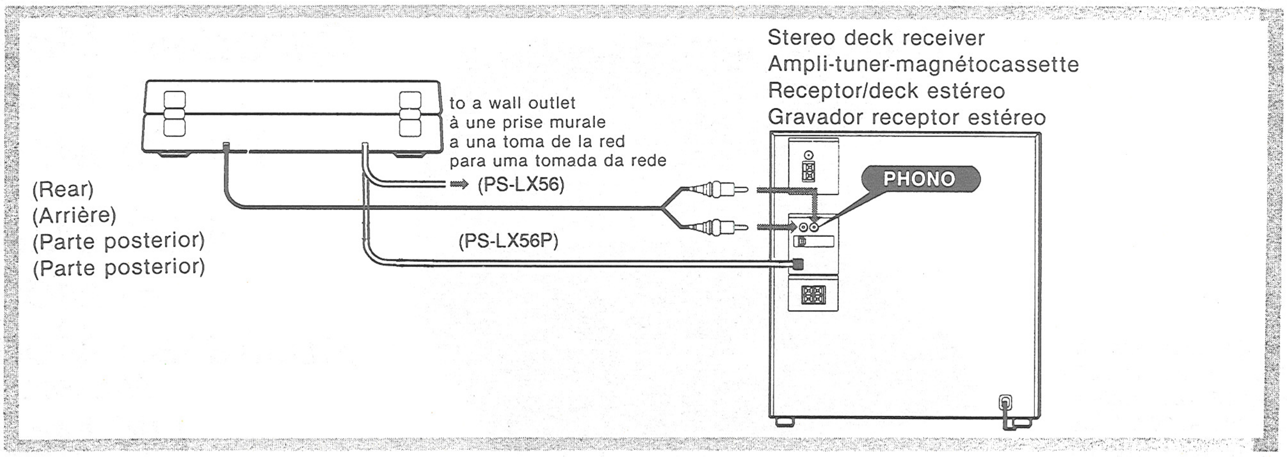
MICROFILM

STEREO TURNTABLE SYSTEM

SONY®

Connections

Note
Connect the red plug to the right-channel jack (R), and the white plug to the left-channel jack (L).


Stereo deck receiver
Ampli-tuner-magnétocassette
Receptor/deck estéreo
Gravador receptor estéreo
to a wall outlet
à une prise murale
a una toma de la red
para uma tomada da rede
(PS-LX56)
PHONO
(PS-LX56P)
(Rear)
(Arrière)
(Parte posterior)
(Parte posterior)

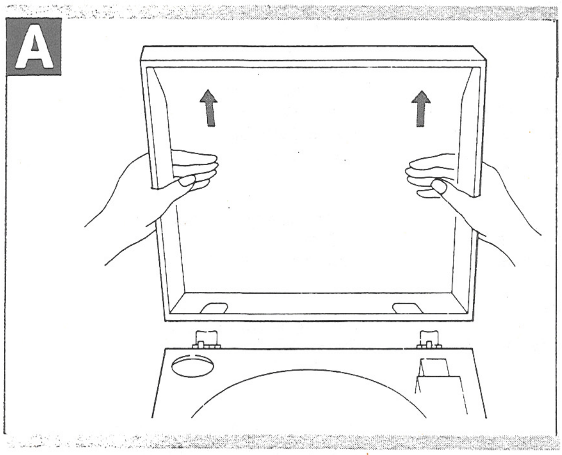
Notes on installation

- Place the turntable on a level surface.
- Avoid placing the unit near electrical appliances (such as a television, hair dryer, or fluorescent lamp) which may cause hum or noise.
- Place the turntable where it will not be subject to any vibration, such as from speakers, slamming of doors, etc.
- Keep the unit away from direct sunlight, extremes of temperature, and excessive dust and moisture.

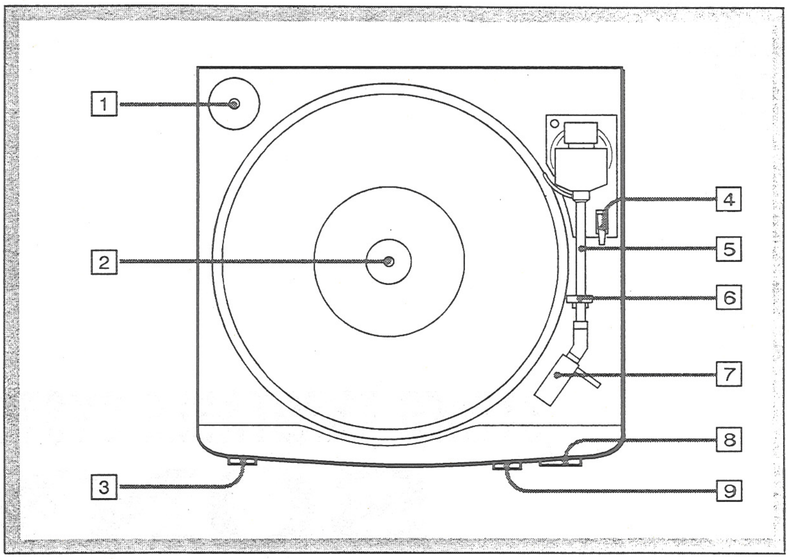
Nota
Conecte la clavija roja a la toma del canal derecho (R), y la blanca a la del canal izquierdo (L).

To remove the dust cover A

Open the cover fully and pull it up.

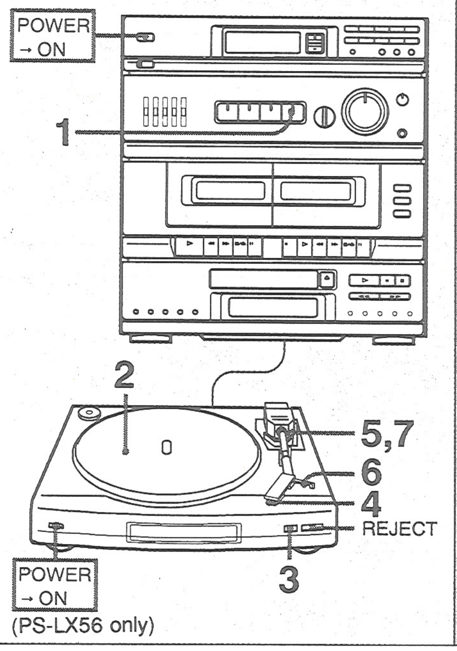


Location of Controls

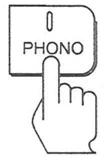


1 45-rpm adaptor
2 Centre spindle
3 POWER switch (PS-LX56)
4 Cueing lever
5 Tonearm
6 Armrest
7 Cartridge
8 REJECT button
9 Speed selector

Playing Records


POWER
→ ON
1
2
5,7
6
4
REJECT
3
POWER
→ ON
(PS-LX56 only)

1



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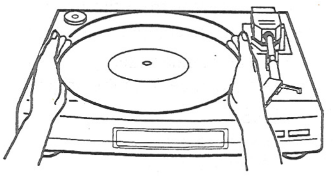

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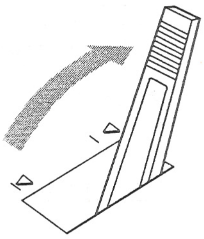

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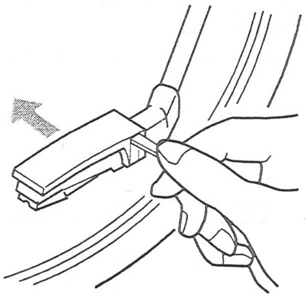

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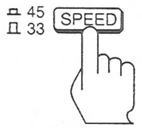

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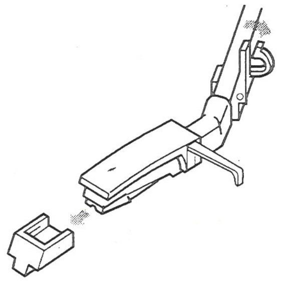
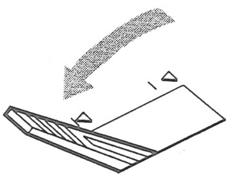


7



When the record is played to the end, the tonearm returns to the armrest and the turntable stops.

To stop during play, press REJECT.

To play a different part of the record
Lift the tonearm by setting the cueing level to ▼, move the tonearm by hand to the desired point, then set the cueing lever to ▼.

To play a 17-cm record
Use the supplied adaptor

If the tonearm moves outward when you move it colse to the centre
Do not resist this movement, as it may damage the automatic return mechanism.

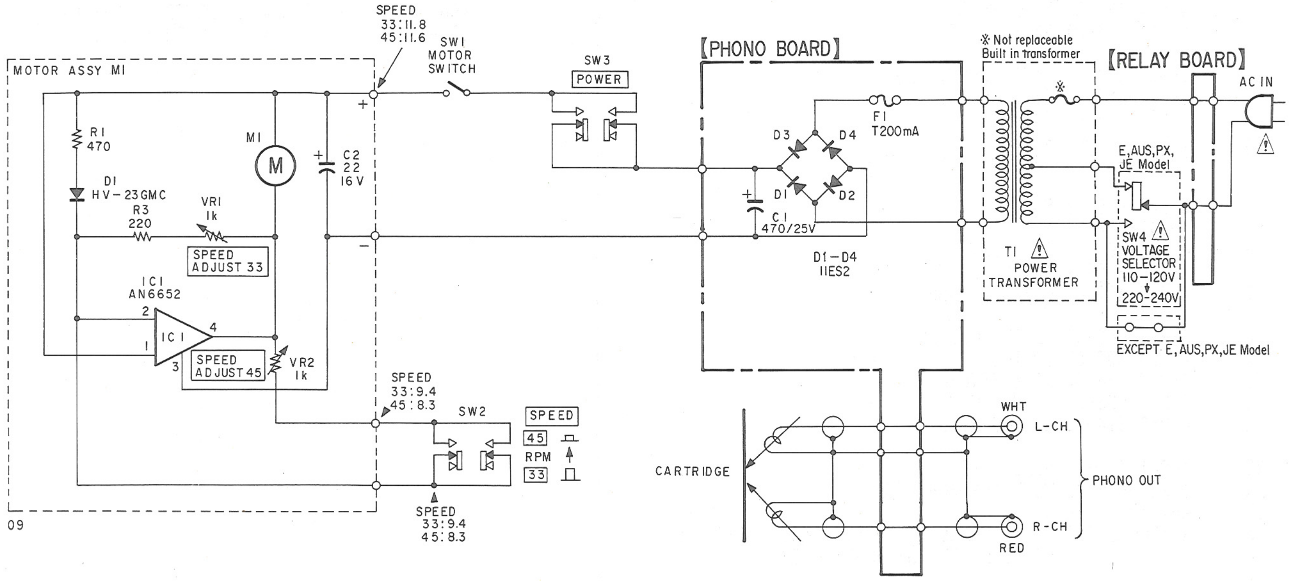
If the tonearm does not return to its armrest
Press REJECT.

SCHEMATIC DIAGRAMS

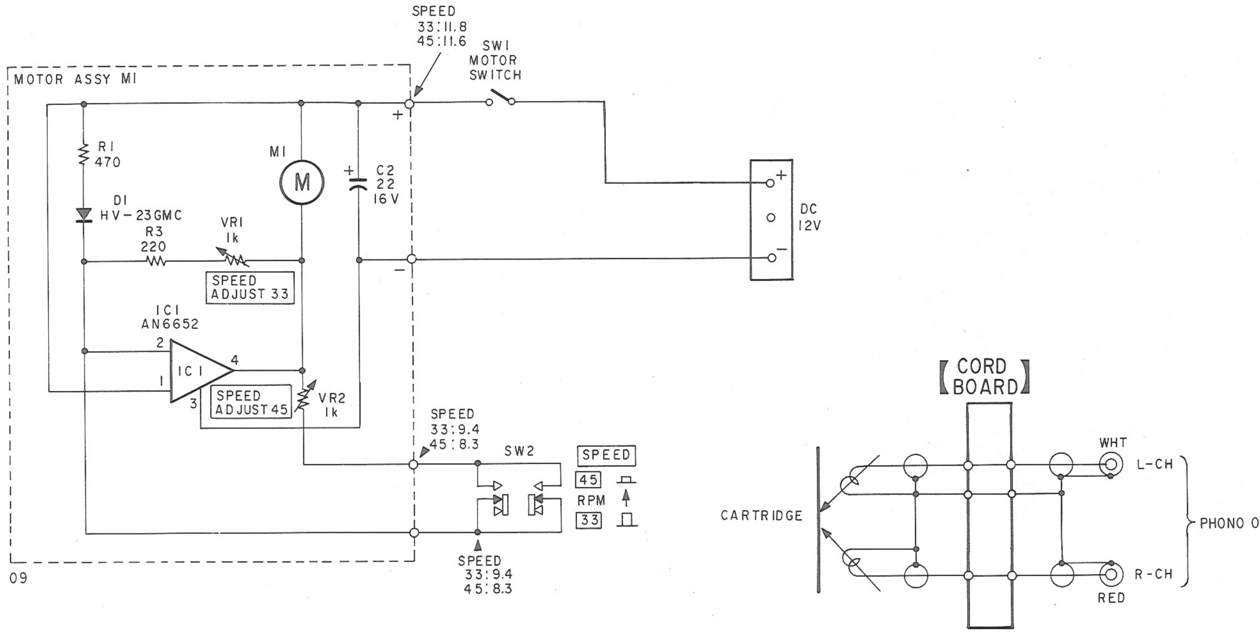
(PS-LX56)

• Switches :

Ref. No.	Switch	Position
SW1	MOTOR	OFF
SW2	SPEED	33
SW3	POWER	OFF


MOTOR ASSY M1
SPEED 33:11.8 45:11.6
SW1 MOTOR SWITCH
SW3 POWER
[PHONO BOARD]
※Not replaceable Built in transformer
[RELAY BOARD]
AC IN
R1 470
M1
C2 22 16V
D1 HV-23GMC
R3 220
VR1 1k
SPEED ADJUST 33
IC1 AN6652
SPEED ADJUST 45
VR2 1k
D3 D4 D1 D2
F1 T200mA
C1 470/25V
D1–D4 11ES2
T1 POWER TRANSFORMER
E,AUS,PX,JE Model
SW4 VOLTAGE SELECTOR 110–120V 220–240V
EXCEPT E,AUS,PX,JE Model
SPEED 33:9.4 45:8.3
SW2
SPEED 45 RPM 33
CARTRIDGE
WHT L-CH
PHONO OUT
R-CH RED
09

(PS-LX56P)


SPEED 33:11.8 45:11.6
SW1 MOTOR SWITCH
MOTOR ASSY M1
R1 470
M1
C2 22 16V
D1 HV-23GMC
R3 220
VR1 1k
SPEED ADJUST 33
IC1 AN6652
SPEED ADJUST 45
VR2 1k
DC 12V
SPEED 33:9.4 45:8.3
SW2
SPEED 45 RPM 33
[CORD BOARD]
CARTRIDGE
WHT L-CH
PHONO OUT
R-CH RED
09

Note:

- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

AUS : Australian model
JE : Tourist model

• Switches :

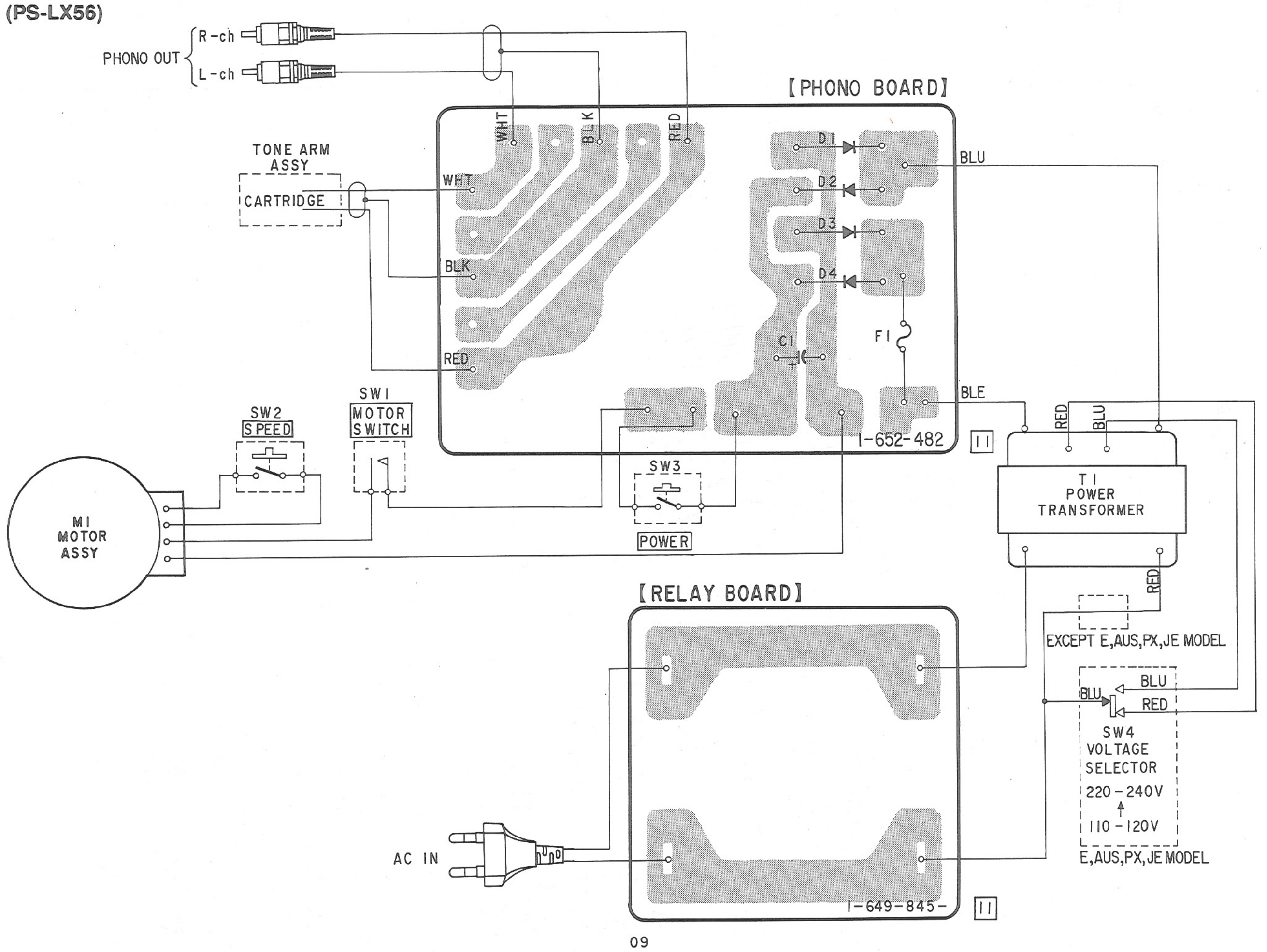
Ref. No.	Switch	Position
SW1	MOTOR	OFF
SW2	SPEED	33
SW3	POWER	OFF
SW4	VOLTAGE SELECTOR	240V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

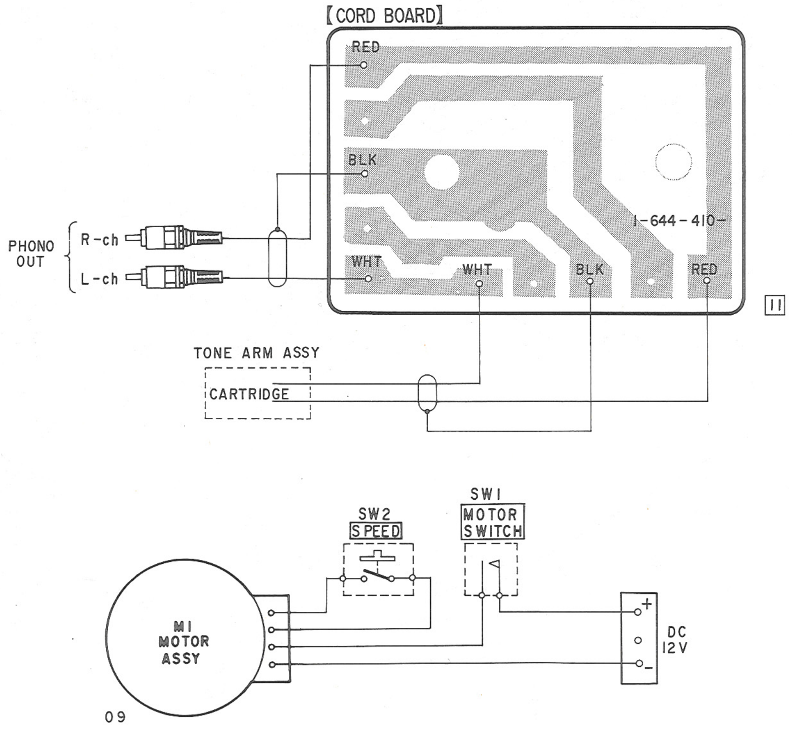
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spéci-fié.

WIRING DIAGRAMS

(PS-LX56)


PHONO OUT R-ch L-ch
[PHONO BOARD]
TONE ARM ASSY
CARTRIDGE
WHT BLK RED
D1 D2 D3 D4
BLU
C1
F1
BLE
1-652-482 11
SW2 SPEED
SW1 MOTOR SWITCH
M1 MOTOR ASSY
SW3 POWER
T1 POWER TRANSFORMER
RED BLU
[RELAY BOARD]
EXCEPT E,AUS,PX,JE MODEL
SW4 VOLTAGE SELECTOR 220-240V 110-120V
E,AUS,PX,JE MODEL
AC IN
1-649-845- 11
09

(PS-LX56P)


[CORD BOARD]
RED
BLK
WHT
1-644-410-
11
PHONO OUT R-ch L-ch
TONE ARM ASSY
CARTRIDGE
SW2 SPEED
SW1 MOTOR SWITCH
M1 MOTOR ASSY
DC 12V
09

Note:

● ○—— : parts extracted from the component side.

AUS : Australian model
JE : Tourist model

EXPLODED VIEW

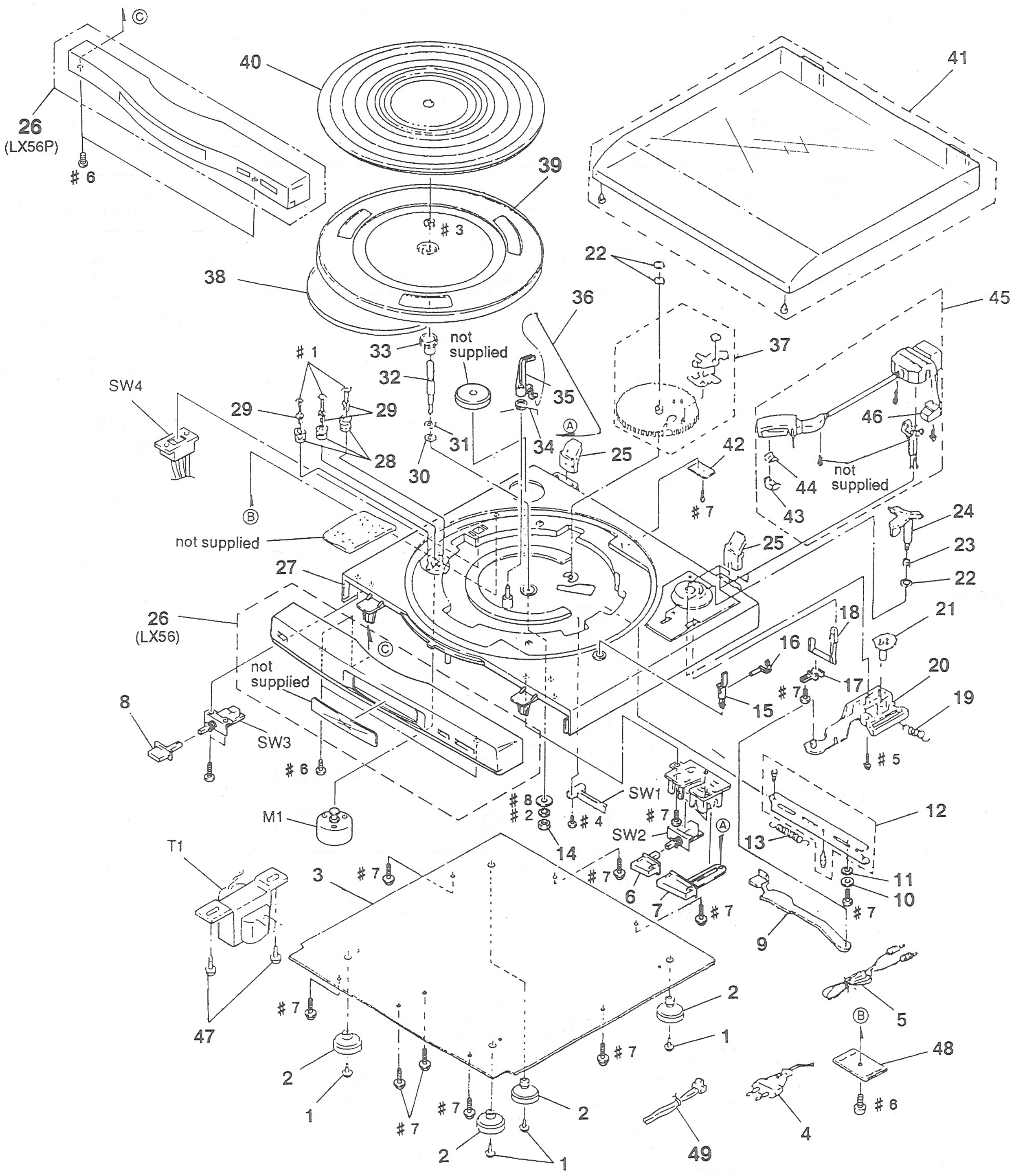
NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

- AUS : Australian model
- CND : Canadian model
- EE : East European model
- IT : Italian model
- MX : Mexican model
- EA : Saudi Arabia model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.



Ref. No.	Part No.	Description	Remark
1	4-950-497-01	FOOT SEAT	
2	4-950-490-01	PLASTIC STAND	
* 3	4-961-804-01	BUTTON BOARD	
⚠4	1-575-651-61	CORD, AC (LX56: AEP, EA, EE, IT, MX, MY, CIS, SP)	
⚠4	1-575-975-11	CORD, AC (LX56: CND, US)	
⚠4	1-590-074-11	CORD, AC (LX56: E)	
⚠4	1-690-608-11	CORD, AC (LX56: AUS)	
5	1-555-116-11	CORD, PHONO	
6	4-964-177-01	KNOB SPEED	
7	4-964-178-01	KNOB REJECT	
8	4-964-184-01	KNOB POWER (LX56)	
9	4-947-487-01	RETURN LINK	
10	4-890-173-00	WASHER	
11	3-659-350-00	WASHER	
12	A-4604-947-A	RETURN ASSY, LEVER	
13	4-947-485-01	SPRING (22)	
14	4-947-510-01	NUT	
15	4-947-491-01	ARM REST	
16	A-4660-499-A	ARM CLIP ASSY	
17	4-947-477-01	CUEING (BASE)	
18	4-947-468-01	LEVER, CUEING	
19	4-963-537-01	SPRING	
20	4-963-536-01	LINK RETURN	
21	4-963-535-01	ADJUST CAM	
22	4-947-514-01	4MM CS RING	
23	4-947-467-01	SPRING (6)	
24	4-947-466-01	TONE ARM ELEVATOR	
25	A-4660-498-A	HINGE ASSY	
26	A-4660-577-A	FRONT PANEL (G) ASSY (LX56: GRAY)(US)	
26	A-4660-578-A	FRONT PANEL (G) ASSY (LX56: BLACK)	
26	A-4660-976-A	FRONT PANEL (G) ASSY (LX56P)	
* 27	4-950-487-01	MAIN CABINET (B)	
28	4-947-505-01	CUSHION MOTOR	
29	4-947-504-01	COLLAR	
30	3-451-162-00	WASHER (56)	
31	3-701-445-21	WASHER	
32	4-947-498-01	STELL BALL	
33	4-947-497-01	GEAR	
34	4-947-496-01	SPRING (34)	
35	4-947-495-01	WIPER REJECT	
36	4-948-101-01	SPRING (38)	
37	A-4604-916-A	GEAR ASSY, SPUR	
38	4-947-503-01	BELT	
39	4-947-494-01	TURNTABLE PLATTER	
40	4-947-539-01	RUBBER MAT	
41	A-4604-946-A	DUST COVER ASSY	
* 42	1-652-482-11	PHONO BOARD (LX56)	
* 42	1-644-410-11	CORD BOARD (LX56P)	
43	4-948-095-01	COVER, CARTRIDGE	
44	4-951-290-01	STYLUS (CN-234)	
45	A-4604-940-A	ARM ASSY, TONE	
46	4-947-464-01	COUNTER WEIGHT	
47	4-952-961-01	SCREW (LX56)	
* 48	1-649-845-11	RELAY BOARD (LX56)	
49	1-557-109-21	CORD, DC (LX56P)	

Ref. No.	Part No.	Description	Remark
M1	A-4604-945-A	MOTOR ASSY	
SW1	1-570-666-11	SWITCH (LEAF)	
SW2	1-571-089-11	SWITCH, PUSH (SPEED) (1 KEY)	
SW3	1-692-211-11	SWITCH, PUSH (POWER) (1 KEY)(LX56)	
⚠SW4	1-692-835-11	VOLTAGE SELECTOR (LX-56: AUS, E, MX, MY, SP)	
⚠T1	1-450-987-11	TRANSFORMER, POWER (LX56: AEP, EE, IT, CIS)	
⚠T1	1-450-987-21	TRANSFORMER, POWER (LX56: AUS, E, PX, EA, JE, MX, SP)	
⚠T1	1-450-987-31	TRANSFORMER, POWER (LX56: MY)	
⚠T1	1-450-987-41	TRANSFORMER, POWER (LX56: U, CA)	

CORD PHONO RELAY

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Hardware (# mark) list is given in the last of this parts list.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- AUS : Australian model
- CND : Canadian model
- EE : East European model
- IT : Italian model
- MX : Mexican model
- EA : Saudi Arabia model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

Ref.No.	Part No.	Description	Remark
*	1-644-410-11	CORD BOARD (LX56P) **********	

****

Ref.No.	Part No.	Description	Remark
*	1-652-482-11	PHONO BOARD (LX56) ***********	
		< CAPACITOR >	
C1	1-126-012-11	ELECT 470uF	16V
		< DIODE >	
D1	8-719-200-82	DIODE 11ES2	
D2	8-719-200-82	DIODE 11ES2	
D3	8-719-200-82	DIODE 11ES2	
D4	8-719-200-82	DIODE 11ES2	
		< FUSE >	
⚠F1	1-532-613-XX	FUSE TIME-LAG (T200mA)	

****

Ref.No.	Part No.	Description	Remark
*	1-649-845-11	RELAY BOARD (LX56) ***********	

****

Ref.No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS *******************************	
	4-758-045-11	MANUAL INSTRUCTION (English, French, Spanish, Portuguese)	(LX56 AEP, CND)
	4-758-045-21	MANUAL INSTRUCTION (English)	(LX56 US)
	4-758-045-41	MANUAL INSTRUCTION (German, Dutch, Swedish, Italian)	(LX56 AEP, IT)
	4-758-045-51	MANUAL INSTRUCTION (English, French, Spanish, Chinese)	(LX56 AUS, E, PX, MX, EA, MY, SP, JE)
	4-758-045-61	MANUAL INSTRUCTION (English, German, Polish)	(LX56 EE, CIS)
*	4-947-532-01	SNOW BOX (L)	
*	4-947-533-01	SNOW BOX (R)	

****

****
HARDWARE LIST
****

Ref.No.	Part No.	Description
#1	7-621-773-87	SCREW (64)
#2	7-623-210-22	WASHER (57)
#3	7-624-110-04	6MM E RING
#4	7-685-105-01	SCREW (59)
#5	7-685-645-79	SCREW (68)
#6	7-685-646-79	SCREW (60)
#7	7-685-647-79	SCREW (58)
#8	7-688-005-01	WASHER (69)

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